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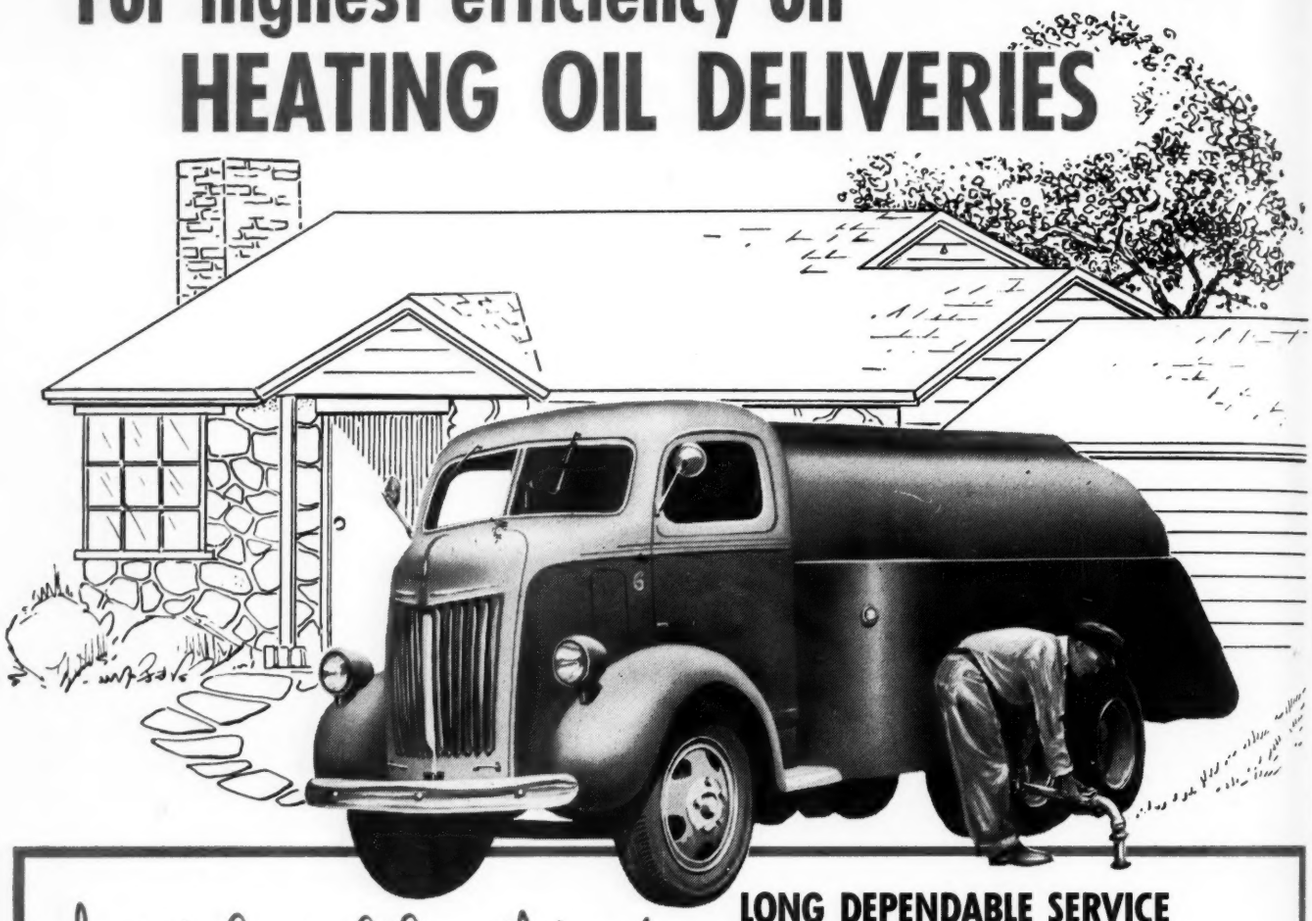

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CONTINUING LOW MAINTENANCE
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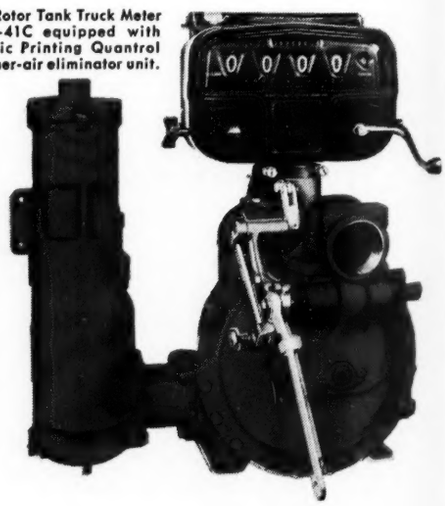
Brodie BiRotor Tank Truck Meter Model B-41C equipped with Brodimatic Printing Quantrol and strainer-air eliminator unit.



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DECEMBER fueloil & oilheat 1955

VOLUME 14 NUMBER 12

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Among other things . . .

Front cover: The bookkeeper at National Heating and Fueloil Company, Camden, N. J., keeps company records up-to-date with a Remington Rand accounting machine, featuring a touch-type keyboard. Ledger and statement are inserted for each account and receive the same simultaneous line of posting with either of these journals.

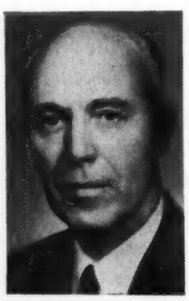
Peter Andrews is back with a happy forecast of things to come next year. In the feature beginning on page 47 he says, "Oilburner Sales to be higher in 1956."

And, more encouraging signposts can be observed in "Opportunities in the distillate Market," page 59. B. L. Ray in this feature presents a forthright analysis of what's needed to insure a continuation of past fueloil expansion. He makes a strong case for the all-inclusive oilheating dealer who sells the equipment, delivers fueloil to the customer and provides burner service.

Names in the News

John J. Buckley has been elected assistant vice-president, American Mineral Spirits Co., Chicago. He joined the company in 1936 as a statistician and later became a salesman in the wholesale fueloil department. He was active in the fueloil rationing program on the Eastern Seaboard during World War II. Buckley became manager of the fueloil department in 1947 and most recently has been in charge of Amsco's wholesale fueloil operations in the New York, Boston and Providence markets.

F. Lowell Curtis has been appointed Greater New York disrtict sales manager, Century Engineering Corp., Cedar Rapids, Ia. In the field since 1928, Curtis has manufacturing, wholesaling and retailing experience. He is a commander in the Naval Reserve.



William H. Flood has been elected president, Converse-Carlisle Co., Springfield, Mass. He had been vice-president in charge of sales and operations for the past several years. Flood joined the company in 1932 when his company, William H. Flood Coal Co. and the Carlisle Coal Co. were merged with the M. S. Converse Co. *William M. Johnson,* former president, was named chairman of the board of directors.

Robert W. Morgan has been named vice-president in charge of engineering, Rochester Manufacturing Co., Inc., Rochester, N. Y. He will be in charge of design and research for the company's liquid level, pressure and temperature gauges and controls. He was formerly a vice-president of Fedders-Quigan Corp., and has held engineering posts with the Bridgeport Thermostat Co., Sunbeam Electric, Nash-Kelvinator and others.

John F. Griffey has been appointed Eastern district sales manager, Sundstrand Hydraulic Division, Sundstrand Machine Tool Co., Rockford, Ill. He has represented the company for the past eight years covering territories in the Midwest and New England. His headquarters will be in Millington, N. J., and his assistant on the sale of fuel units, fluid motors, stack valves and hydraulic pumps will be *James F. Nelson.*

Griffey

J. B. Johnson has been named regional manager, Industrial Division, York-Shipley, Inc., York, Pa. He has been with the factory sales staff for the past five years and now will be responsible for the establishment of sales and service centers in Indiana, Illinois, Michigan and Kentucky.

C. A. "Pete" Murchison has been made manager of industrial sales, Armstrong Furnace Co., Columbus, O. A veteran of more than 20 years in the heating business, Murchison will work out of the home office.

R. R. Routh, Jr., has been named manager, advertising and sales promotion, Home Heating and Cooling Department, General Electric Co., Bloomfield, N. J. He had held a similar position with Carleton-Stuart Corp., New York distributor for Carrier. Other appointments at GE include *Norman R. Austin* now distribution planner for the marketing unit, and *G. E. Taylor* named modernization specialist. A few months ago *R. F. Bogle* was named builder-sales specialist.

Routh

Don C. Zinter has been appointed general sales manager, Berger Furnace Corp., Pittsburgh and Belle Vernon, Pa. He formerly had been associated with Besser Metal Products Corp., Adams Manufacturing Co., and White-Rodgers Electric Co.

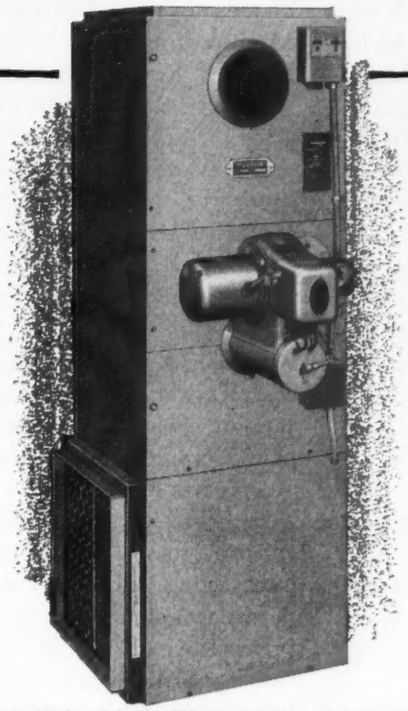
B. L. Lerch has been named midwest regional manager, General Controls Co., Glendale, Calif. *Norbert A. Grainer* has succeeded him as manager of the firm's Chicago branch.

Stewart H. Kibbe has been reappointed sales training director, Iron Fireman Mfg. Co., Cleveland. He had held this post during 1951-52 and then was recalled to the Army Signal Corps. Kibbe joined Iron Fireman in 1934, and in 1937 became a field engineer in the New England area. He entered the Army in 1941 and after the war was division engineer at Minneapolis for the company. In 1950 he became industrial sales manager.

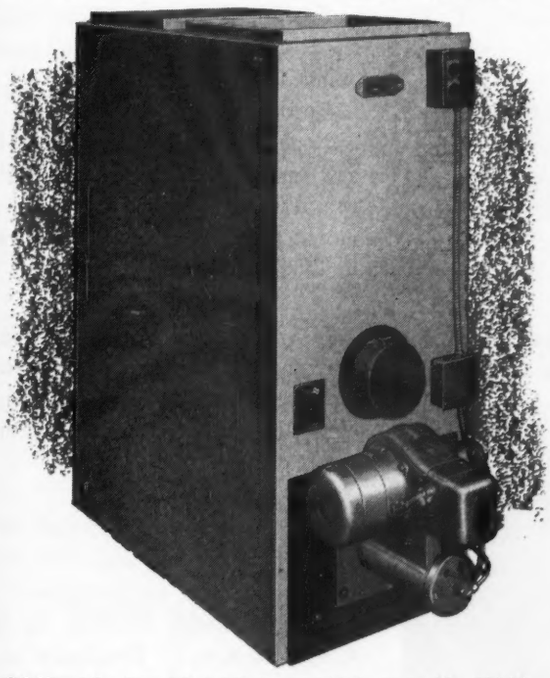
William G. Huston has been appointed western regional sales manager, Heating and Cooling Division, Union Asbestos & Rubber Co., Chicago. He has had more than 30 years'

Sell these modern fluid heat *quality* heating units priced for your builder trade!

Here's what you can offer builders!



Oil-Fired Hi-Boy Model SU-84: 63⅛" high, 21" wide, 35" long (incl. burner); 84,000 BTU/hr. output. Also available: Hi-Boy Model SU-112: 67⅛" x 23½" x 37½" (incl. burner); 112,000 BTU/hr. output. Both UL approved.



Oil-Fired Lo-Boy Model B-84: 53" high, 21" wide, 52½" long (incl. burner); 84,000 BTU/hr. output. UL approved.

- **Rock-bottom prices with no drop in famous Fluid Heat quality!**
- **Wide range of models and sizes!**
- **Prestige of a top name in the industry!**
- **Satisfied customers, with no comebacks!**

Here's a new line of Fluid Heat heating units, designed specifically for the building trade. Each unit boasts the same Fluid Heat quality features and top construction as always—only the frills have been left off. And the price has been cut 'way back to put you in a favorable competitive position. If you are looking for a good connection, it will pay you to mail the coupon for more details!

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My Name.....

Address.....

City..... Zone..... State.....

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TRADEMARK

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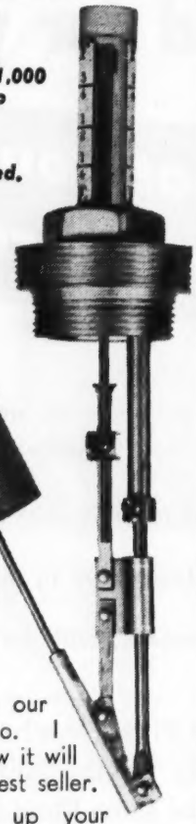

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Don't clutter up your shelves with a heavy inventory of various size gauges.

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Tattle Tale Gauges are trouble-free. No springs, No Gears, No Magnets, No Ribbons, No Bakelite bushings, No Weak Construction. All parts are tooled of non-corrosive metals.

Each Tattle Tale Gauge is packaged separately in a heavy mailing container with metal end screw cap for easy mailing to your customers.

Tattle Tale Gauges will be profit makers for you.

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experience in the airconditioning industry and will supervise sales in 11 of the western states. *John T. Obrig* is the company's eastern regional sales manager. He had been with the Trane Co. and most recently district manager of Typoon Air Conditioning Co. Huston's headquarters are in San Francisco; Obrig's in New York City.

Orville Cochran has been named branch manager of the new Denver office recently opened by the Meter and Valve Division, Rockwell Manufacturing Co., Pittsburgh. He joined the company in 1922 and has been a sales engineer in the Rocky Mountain territory for more than 25 years.

Martin G. Beline has been appointed manager of Industrial sales, Lennox Furnace Co., Marshalltown, Ia. Drawing on his many years in the industrial heating and ventilating field he will guide the company's expansion into this field.

Carl Theobald, formerly general sales manager for Skuttle Mfg. Co., Milford, Mich., has become director of public relations for Jervis B. Webb Co., Detroit, manufacturers of conveyors and conveyor systems.

S. Alfred Walker has been named public relations representative, General Controls Co., Glendale, Calif. Previously he had been associated with General Electric and Young & Rubicam, advertising agency. Walker's duties will be coordinated with those of *Henry B. Safford,* advertising and sales promotion manager, and with Wolcott & Associates, public relations counsellors.

C. Adrance Montague has joined York-Shipley, Inc., York, Pa., as manager of residential airconditioning sales. He formerly was general sales manager, Kalamazoo Furnace & Appliance Mfg. Co. He also has served with Carmen Air Conditioning Corp., Chrysler Airtemp and McShain-Carrier Corp. Montague plans to penetrate the mass market during 1956 for York-Shipley as well as conduct airconditioning training for factory personnel, field salesmen and representatives of dealers and distributors.

Jack H. Walters, gas products manager for the past year, has been named manager of gasoline and oil products, Meter and Valve Division, Rockwell Manufacturing Co., Pittsburgh, Pa. *Robert B. Kitzmiller* succeeds him.

Other changes in the Division include the appointment of *T. O. Carson,* assistant product manager, Nordstrom valves, as manager of distributor sales. *M. F. Groom* is his assistant. All four will have their headquarters in Pittsburgh.

Howard K. Beck has been appointed president, Jackson and Church Furnace Division, a subsidiary of Norbute Corp., Saginaw, Mich. *F. C. Adams* was appointed vice president.

Beck has been associated with the company since 1946; in 1950 he became acting manager of the furnace department and in 1954, when the present division was formed, became manager. Adams has been affiliated with the company since 1946. He was promoted to sales manager in 1950.

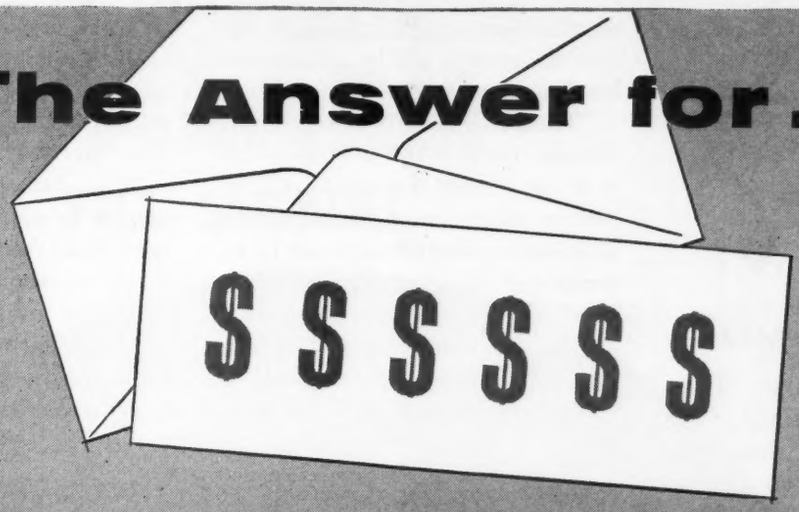
Edward C. Koch has been assigned the post of manager of market surveys, Johns-Manville Corp., New York. He succeeds the late *E. A. Phoenix.*

Koch joined the company in 1936 and served with the Industrial Products Division. In 1954 he was promoted to manager of dealer sales for the Transite Pipe Department.

Henry F. Shea has been made advertising and sales promotion manager, Preway, Inc., Wisconsin Rapids, Wisc. He has been with the firm for the past 20 years.

James Hughes has been made supervisor of advertising and sales promotion, residential airconditioning and heating, Airtemp Division, Chrysler Corp., Dayton, O. Previously he had been assistant sales promotion manager for the Armstrong Furnace Co.

The Answer for . . .



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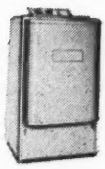
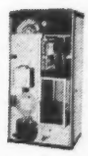
The Answer to ANY Heating . . . Cooling . . . Year 'Round Air Conditioning Question

Year 'Round Unit Basement-Utility 5 Ton Water Cooled

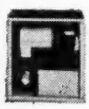


Year 'Round Unit Basement-Utility 2 or 3 Ton Air or Water Cooled

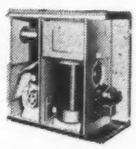


Year 'Round Unit Counterflow 2 or 3 Ton Air and Water Cooled

Summer Air Conditioner 2, 3 or 5 Ton Water Cooled

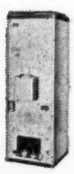


Summer Air Conditioner 2 or 3 Ton Air Cooled, Remote

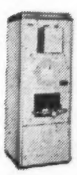


Basement Winter Air Conditioner Gas or Oil Fired

Gas Fired Unit Heater



Counterflow Unit Gas or Oil Fired

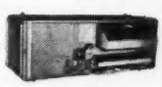


Utility Unit Gas or Oil Fired

Gravity Furnace Gas or Oil Fired

Incinerator With or Without Gas Burner

Gas and Oil Horizontal Furnaces



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With Moncrief, you get a greater selection . . . Gas, Oil and Coal Furnaces; Basement, Utility, Counterflow or Horizontal Winter Air Conditioners; Basement-Utility or Counterflow Year 'Round Air Conditioners; Air Cooled or Water Cooled Summer Air Conditioners; Gas or Oil Conversion Burners; Gas Fired Unit Heaters and Incinerators . . . a size, a type and a capacity for every installation!

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You can be assured that you can make your profit dollars shape up bigger . . . by calling your Moncrief Wholesaler!

APPROVED for GAS or OIL!

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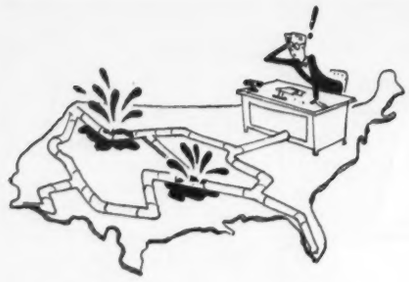
HEATING AND AIR CONDITIONING UNITS — MONCRIEF — FURNACE PIPE AND FITTINGS



Editorial Leaks

AT THE HUGE GATHERING of the American Petroleum Institute at San Francisco in November there were about 7,000 oilmen, and the program carried a list of 168 meetings in the four days. Obviously no one member could be interested in more than a few sessions since the oil industry is so highly specialized.

One of the best meetings was the Group Session for Marketing where the program committee under Mark Braeckel of Sinclair had arranged to bring in some very famous men as speakers.

In the opening moments of this session, J. G. (Doc) Jordan, vice-president of Shell and also vice-president for Marketing of the Institute, made some very pertinent statements more or less off the cuff. In other words they were not considered part of a speech and were not published and released by the API Department of Information.

Following are a few paragraphs from Jordan's remarks as taken down by a stenographer. These are particularly timely today to alert all of us to the implications and the certainty of changes in our fueloil distribution practices. Among other things Jordan said . . .

"By many standards, the oil industry is comparatively young. And like any "youngster," it is growing lustily, stimulated and sustained by the healthy atmosphere of vigorous competition. It is the pressure of this growth that continually compels us to discard, like outgrown clothing, the set ideas and methods of doing business that we have found so comfortable in the past. This is particularly true in the marketing segment of the industry.

"As for the future, I think you'll all agree that continued growth of a significant degree is in prospect. And, in accepting the prospect of growth, we must also accept the inevitable fact that this growth will be accompanied by changes in our distribution system.

"These changes will come whether we who are now in the business like it or not. Under our system of competitive private enterprise, our choice is limited to whether we want to accommodate ourselves to these changes or whether we are content to sit back and let our competitors—either new ones or the more progressive ones already in the business—take the initiative.

"That's because, in our system of free markets, competition ultimately will see to it that the consumer gets the best possible product at the lowest possible price. Like the river flowing to the sea, our economic laws work unfailingly toward that objective.

"In the oil business today, the traditional marketing channels are being squeezed between a technologically advanced production capacity on the one side and a wealthy, demanding—but market-wise—consumer on the other side. Conventional methods of marketing—no matter how successful they've been in the past—are not always adequate to meet these pressures.

Stay Alert to Change

"As a result, oil marketers—at both the wholesale and retail levels—are finding that they must adapt or change their traditional methods of doing business or run the risk of losing out to newcomers using streamlined methods. Old ruts, comfortable though they may be, provide little shelter or security against the onrushing traffic of competition.

"As far as the oil business is concerned, I hasten to assure the retailer and independent wholesaler segment that they are not the only marketers who are currently experiencing the unpleasant sensations of severe competition. The pressure of dynamic economic forces shows no favorites—no distinction is made between the big and the little. If any are favored, they are the far-sighted, the agile, and the flexible.

"Each of us, at all marketing levels, has more competitors than he would prefer to have. They are either old-hands already hard at work trying to take some of our customers away from us or they are would-be oil marketers standing in the wings, sizing us up, ready to assume our places if we should falter and fail to keep pace.

"The observation I would like to pass on to you is simply this: Let us not mistake the forces that are at work in the marketplace today for something they are not. Many of the uncomfortable things that are happening to us are not motivated by the arbitrary cussedness of our competitors or our suppliers.

No Situation is Permanent

"The simple fact is that any alert and ambitious marketer must always be willing to decrease or increase his margin, his costs, or his volume if it will bring him additional net profit. He must grasp his opportunities as he sees them or his competitor may beat him to the punch. He must assure himself only that his tactics are not unethical in the eyes of public opinion or the law.

"The economic laws under which competitive enterprise operates do not guarantee any businessman the right to expect that prevailing gross profits will never be reduced or that his competitors are forever barred from finding ways to operate at lower costs.

"If these laws bar anything, it is sentimental attachment to the traditional and paternalistic tolerance of the uneconomic. Under these laws, each businessman is judged by a mixed jury made up of his customers and his competitors. To this jury he must justify not only his activities but even his very existence.

"My point is: Let's be realistic. Let's ask—is it possible that some of our difficulties stem from our resistance to change? If changed conditions call for changed operations, let's not resist the inevitable. Let's see what adjustments we can make to take advantage of the change. When Winter takes Summer's place, let's not stand shivering in our bathing suits at the edge of the lake, calling on the calendar to turn back to July. Instead, let's don our woolen underwear, buy ourselves some skates, and enjoy ourselves on the ice. We'll find that we'll live longer and happier that way."

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TANK FILL SIGNAL

"Just fill 'til the whistle stops"

Stem is easily cut to provide any predetermined safety expansion zone desired within the tank. In addition to the safety feature, this permits a consistent fill program regardless of variations among tanks.

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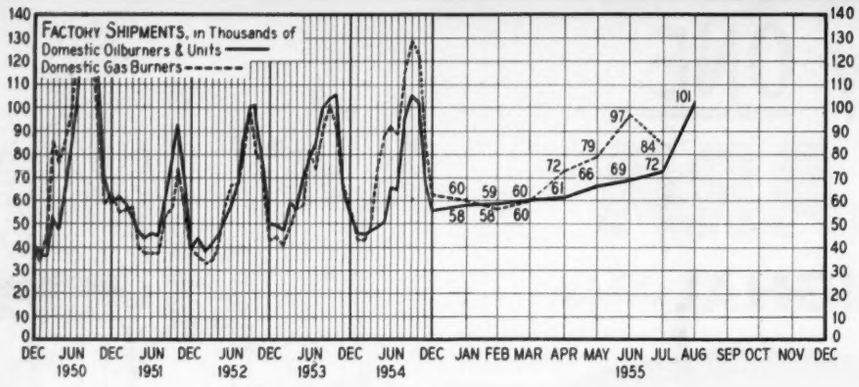
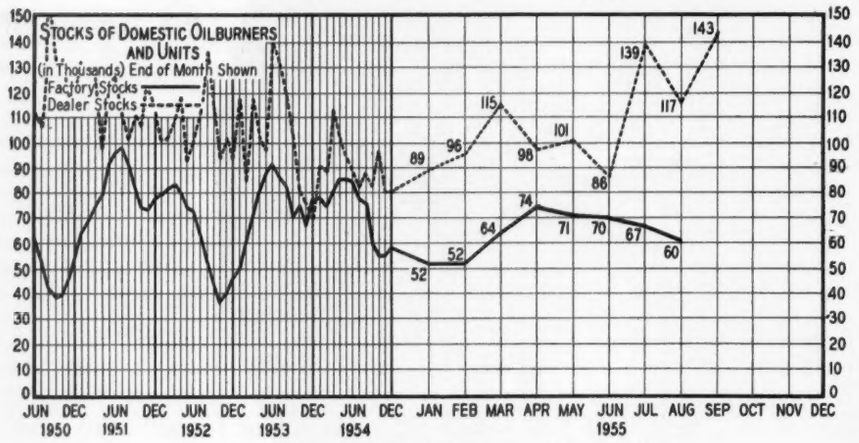

FACTORY SHIPMENTS, in Thousands of
Domestic Oilburners & Units ——
Domestic Gas Burners ------
DEC JUN DEC JUN DEC JUN DEC JUN DEC JUN DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1950 1951 1952 1953 1954 1955

Shipments of Oilburners and Units
(Including Exports)

Adjusted to include manufacturers other than the 145 reporting to Census Bureau, FUELOIL & OIL HEAT's estimates of shipments are:

	AUGUST			EIGHT MONTHS		
	1955	*1954*	*Percent Change*	*1955*	*1954*	*Percent Change*
Separate Burners	62,858	58,944	+ 6.6	357,849	308,308	+ 16.0
Boiler Units	11,104	8,194	+ 35.5	52,062	39,113	+ 33.1
Furnace Units	27,518	23,853	+ 15.4	134,569	112,839	+ 19.3
All Domestic	101,480	90,991	+ 11.5	544,480	460,260	+ 18.3
Commercial	4,652	4,443	+ 4.7	24,277	23,895	+ 1.6
Total	106,132	95,434	+ 11.2	568,757	484,155	+ 17.5


STOCKS OF DOMESTIC OILBURNERS AND UNITS
(in Thousands) End of Month Shown
Factory Stocks
Dealer Stocks
JUN DEC JUN DEC JUN DEC JUN DEC JUN DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1950 1951 1952 1953 1954 1955

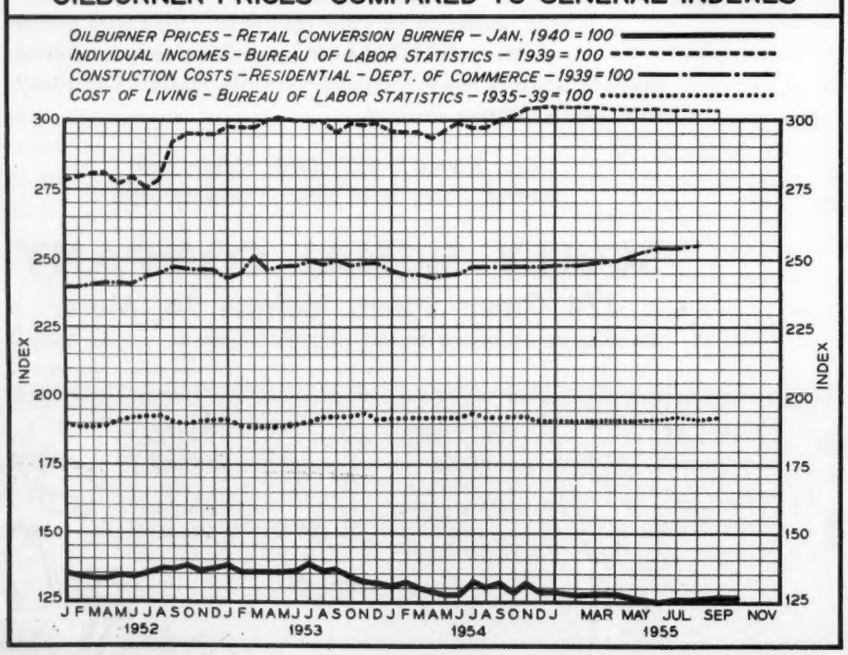
October Minimum Retail Prices: Key Dealers

	SEPARATE BURNERS	BOILER-BURNERS	FURNACE-BURNERS
October Aver.	$310	$686	$593
September Aver.	310	711	606

Price Index: Separate Burners: January 1940 is 100%

	WHOLESALE			RETAIL		
October	140.5	Six months ago	138.4	October	125.9	Six months ago	128.1
September	140.6	Year ago	134.0	September	126.8	Year ago	128.9

OILBURNER PRICES COMPARED TO GENERAL INDEXES


OILBURNER PRICES - RETAIL CONVERSION BURNER - JAN. 1940 = 100
INDIVIDUAL INCOMES - BUREAU OF LABOR STATISTICS - 1939 = 100
CONSTUCTION COSTS - RESIDENTIAL - DEPT. OF COMMERCE - 1939 = 100
COST OF LIVING - BUREAU OF LABOR STATISTICS - 1935-39 = 100
INDEX
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1952 1953 1954 1955

Oilheating Trends

INSTALLATIONS of domestic oilburners and units during October made the best showing of the year thus far. The number installed was approximately 127,574 which was the peak month. This was 29% above the same month last year which again is the high point in rate of gain.

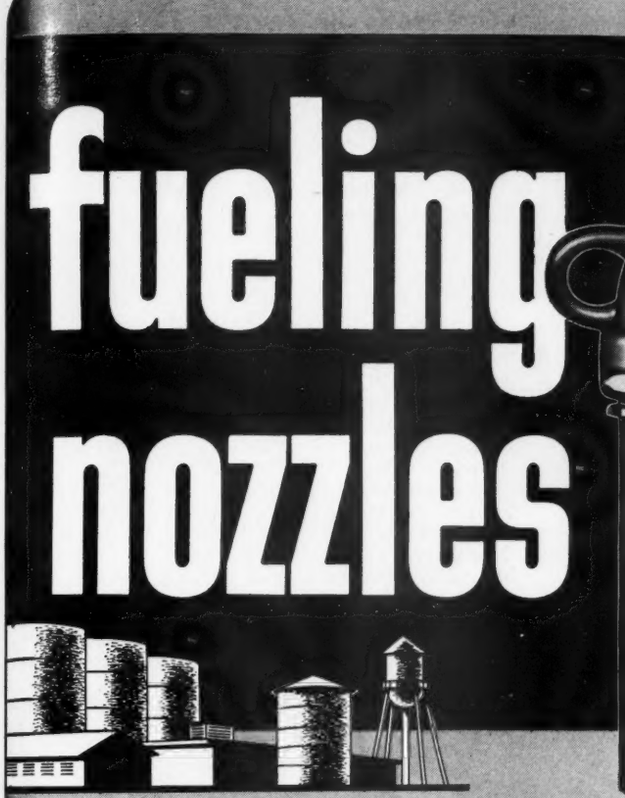
For the 10 months ending with October we had 698,922 new installations, compared with 616,356 in 1954, showing a rise of 13%. You will notice in another section of this report that factory shipments to the end of August were up 18% from the previous year. By the end of the year we expect that the percentage rate of gain on shipments and installations will be closer together.

In any event, this is another fine year for oilheating and there is just the barest possibility that we might equal our best previous year which was in 1947 when we had 888,083 new installations. It is becoming quite obvious that this could be at least our second best year for installations.

The October installations were divided: New Homes 56,028; Replacements of old oilburners 17,323; Conversions from other fuels 54,223.

BURNER STOCKS: Stocks of domestic oilburners and units in dealer hands at the end of October were approximately 128,788 compared with 142,757 the previous month and with 97,496 the previous year. These burner stocks were divided: Separate burners, 62,783; Boiler-burner units, 24,410; Furnace-burner units, 41,595.

fueling nozzles



No. 190 DUAL POPPETED CONTROLLABLE SPEED

No. 620 HI-PRESSURE TYPE

No. 1190 HIGH CAPACITY
AUTOMATIC SHUT-OFF NOZZLE

No. 220 GRAVITY LO-PRESSURE TYPE

OPW has designed these liquids dispensing nozzles in a wide variety of sizes to assure you of having the right nozzle for a fast, fully-controlled, dependable operation regardless of the delivery condition.

EACH engineered for high capacity, wide flow range with minimum turbulence; easy shut-off, with no product surge . . . *ALL*, for minimum weight, perfect balance, durability and long service life.

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FOR HANDLING HAZARDOUS LIQUIDS
OPW
VALVES • FITTINGS • ASSEMBLIES
CINCINNATI 25, OHIO

OPW CORPORATION

Write for Free Bulletin F9

2737 Colerain Ave. Cincinnati 25, Ohio

TANK STOCKS: As we have mentioned from time to time, we use this item as an index to general inventory attitudes of oilheating dealers. At the end of October dealers had on hand approximately 46,330 consumer tanks compared with 61,673 the previous month and with 42,988 last year.

By sizes, the October 31 tank stocks were divided: 220-275 gallon, 40,423; sizes 550-675 gallon, 4,003; sizes 1,000 gallon and over, 1,904. The average price paid by dealers for 275 gallon tank in October was again $31, the same as the previous month.

Special Study this Month

Saving the Replacement: One of the interesting problems of the oilheating industry is to be sure that it gets its own replacement business. In other words, it is most important that we sell replacement installations where heating equipment is antiquated and troublesome, rather than letting other fuels take our customers at that point. In our special study this month, we have attempted not only to place a yardstick on what is happening, but also to alert the dealers to opportunities in this department.

We first asked the reporting group if their companies make any serious efforts to sell replacement jobs aside from emergency breakdowns. Just under three-fifths of the companies do make a special effort along this line; the other two-fifths do not.

An interesting point developed in this connection. The companies that go after replacements, using both methods, get a larger share of this business than those companies depending only on breakdowns. Combining the experiences of all reporting companies we find that only 49% of replacement sales result from actual breakdowns, while 51% come through selling efforts where the equipment is simply old and not broken down.

On the next question we got quite a surprise. It is pretty generally believed that a family will not take out good oilheating equipment and install gas equipment, regardless of other circumstances. In this study we learned that where oil accounts are lost to gas, only 56% of these defections occur where the oil equipment is antiquated and troublesome. This would be a serious discovery, were it not for the fact that total replacements of oil equipment by gas equipment have never exceeded 1% of our total users in any year. The conclusion to be drawn however, is that nearly half of the oil users that go to gas, have fairly modern equipment and change for reasons of unsatisfactory service or higher fuel costs.

At the next stage of this investiga-

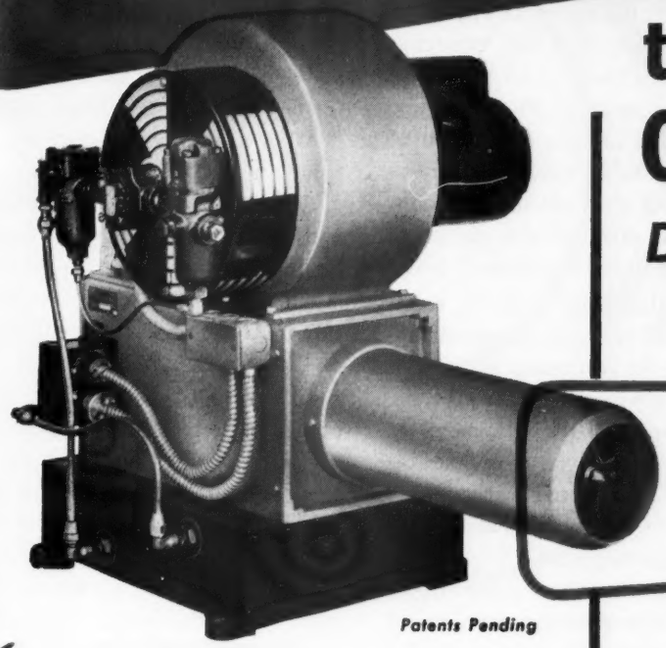
Oilburner* and Building Permits

OILBURNERS					DWELLINGS			
October		TEN MONTHS			October		TEN MONTHS	
1955	1954	1955	1954		1955	1954	1955	1954
13	22	77	145	Albany, N. Y.	..	..	..	..
141	59	501	613	Baltimore, Md.	109	207	2692	2257
..	..	..	..	Binghamton, N. Y.	14	19	155	164
..	..	..	..	Bloomfield, N. J.	10	4	243	96
..	..	..	..	Boston, Mass.	41	39	657	522
230	109	1265	1050	Bridgeport, Conn.	..	..	..	..
..	..	..	..	Buffalo, N. Y.	42	43	461	452
75	22	324	203	Columbus, O.	..	..	..	..
..	..	..	..	Des Moines, Ia.	79	578	1759	4017
535	..	..	..	Detroit, Mich.	262	235	2637	2697
40	55	330	409	Elizabeth, N. J.	7	6	55	60
49	25	360	394	Freeport, N. Y.	..	..	..	..
..	..	..	..	Greenwich, Conn.	30	32	381	352
..	..	..	..	Hackensack, N. J.	5	11	54	77
65	179	503	1158	Hartford, Conn.	..	..	..	..
28	39	292	319	Irvington, N. J.	5	2	43	19
..	..	..	..	Lynn, Mass.	15	9	175	168
45	80	418	664	Meriden, Conn.	..	..	..	..
401	699	4557	5320	Milwaukee, Wisc.	389	344	3075	3192
23	21	180	158	Minneapolis, Minn.	56	91	720	994
27	36	163	196	Montclair, N. J.	..	..	..	..
12	..	69	..	Morristown, N. J.	1	1	30	44
54	33	292	290	Mt. Vernon, N. Y.	..	..	..	..
192	189	1227	1321	Newark, N. J.	..	..	..	..
173	59	925	433	New Bedford, Mass.	..	..	..	..
74	65	329	420	New Haven, Conn.	..	..	..	..
54	52	319	260	New Rochelle, N. Y.	17	49	386	341
802	923	7822	9021	Brooklyn-Queens	..	..	..	..
262	16	559	493	Norfolk, Va.	85	31	577	404
..	23	..	137	Omaha, Neb.	..	121	..	1146
26	32	126	156	Orange, N. J.	1	0	11	13
15	27	109	141	Passaic, N. J.	..	..	..	..
60	66	427	339	Paterson, N. J.	9	19	173	244
608	572	3385	3613	Philadelphia, Pa.**	..	..	..	..
..	..	..	..	Plainfield, N. J.	8	2	109	123
115	104	632	570	Portland, Me.	14	12	201	126
371	453	3524	3806	Portland, Ore.	82	123	1040	1454
30	38	163	193	Poughkeepsie, N. Y.	..	..	..	..
..	156	..	..	Providence, R. I.	16	..	202	..
..	..	..	..	Reading, Pa.	8	4	39	43
68	46	391	327	Richmond, Va.	27	40	283	386
221	116	1034	..	Roanoke, Va.	..	..	..	..
243	144	1265	1670	Rochester, N. Y.	..	..	..	..
14	26	134	120	Rockville Center, N. Y.	2	5	55	60
117	63	404	354	Salem, Mass.	17	6	85	55
285	246	1782	1701	St. Louis, Mo.	15	36	346	468
16	13	103	84	St. Paul, Minn.	69	65	880	978
13	9	90	190	Schenectady, N. Y.	..	..	..	..
..	..	..	..	Seattle, Wash.	100	256	1706	2181
206	219	1207	1763	Spokane, Wash.	..	..	..	..
190	295	1397	1301	Springfield, Mass.	76	75	1338	1080
17	19	251	257	Stamford, Conn.	..	..	..	..
..	..	..	..	Trenton, N. J.	3	44	49	106
..	..	..	..	Utica, N. Y.	15	34	253	160
49	120	445	548	Washington, D. C.	..	..	..	..
..	..	..	..	West Orange, N. J.	15	49	231	279
47	49	242	293	White Plains, N. Y.	10	13	174	159
103	51	412	453	Wilmington, Del.	5	4	74	42
246	161	1136	1221	Worcester, Mass.	..	..	..	..
51	79	452	621	Yonkers, N. Y.	..	..	..	..
5351	5147	35280	38867	*Totals*	1626	2439	20761	23472
+4.0	..	—9.2	..	*Percent Change*	—33.3	..	—11.6	..

*Permits are not total sales in each market since none are reported from suburban areas, which normally account for 20% to 60% of total sales in each market; nor are they an accurate index where enforcement is lax. Rightly used, however, they are a useful working index.

**Courtesy of "Philadelphia Inquirer."

BIG SAVINGS YOUR CUSTOMERS WILL CERTAINLY WANT



Patents Pending

the NEW #4 OIL BURNER

DRASTICALLY CUTS FUEL COSTS

Converts #4 (and #5) Oil to Burn Efficiently as #2 Oil.

✔ ***APPROVED*** for #4 fuel oil by Underwriters' Laboratories, Inc., and by the Board of Standards and Appeals of the City of New York.

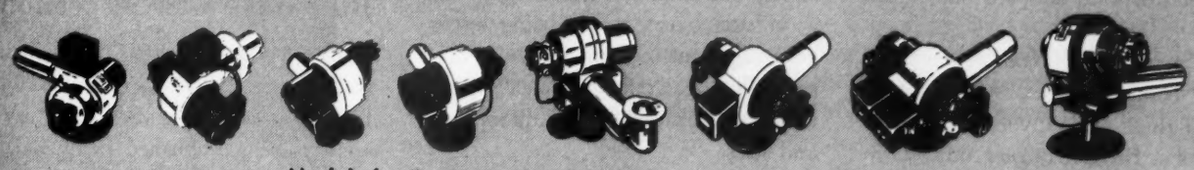
✔ ***BEST BET*** for cutting fuel bills in apartment houses, schools, institutions, commercial and industrial buildings and heating processes by using lower priced fuel oil.

✔ ***AUTOMATIC*** — Electric fuel converter system, complete with safety shut-down and mechanical oil cut-off, is thermostatically controlled — automatically. Complete assembly easily accessible for quick service.

- **Built-in "Thermax" Converters Reduce Heavy Oil to Light Oil**
- **As Quiet as a #2 Oil Burner**
- **Easy to Install and Service**
- **No Complicated Parts**
- **Can Use Existing Piping in Practically All Cases**
- **3 Sizes—3 to 20 G.P.H. Larger Sizes Available Later**

Write for Bulletin and Prices

SUN-RAY— FAMOUS THE WORLD OVER FOR QUALITY AND ECONOMY



Models for Every Heating Need in Sizes from 0.5 to 22 g.p.h.

SUN-RAY BURNER MANUFACTURING CORPORATION

139-22 Queens Boulevard, Jamaica 35, New York

Distributed in Quebec and the Maritime Provinces of Canada by Economic Oil Burner Co., Ltd., 5721 St. Denis St., Montreal, Quebec

tion we inquired of the reporting companies some of the detail on how they keep alert to opportunities for replacement sales. The most obvious method, employed by nearly every company, is to have the service department report obsolete or antiquated heating systems to the company's sales department. Only 3% of the reporting dealers do not follow that practice.

Next we find that 61% of the companies have their oil truck drivers keep an eye open and report replacement prospects as they encounter old equipment in the basements.

One of the most effective methods seems to be the rewarding of their oil customers for giving them leads where they know of a heating plant in the neighborhood that is old and delapidated. We find that 65% of the companies use this method.

Salesmen check Plants

Almost the same group, or 66% of the reporting companies, have their fueloil salesmen visit the customers periodically and at that time they look over the heating plants and report back to the office any situations where they think trouble is ahead, or where they believe a salesman should try to sell a plant.

A new concept being studied in Baltimore and apparently in a few other cities, is an idea to insure the heating plant in such way that all or part of the cost of replacement will be available to the owner when the time comes to get a new unit. Just three of the reporting companies mention that they are trying to develop this idea and in fact, they lean a little in the direction of including this insurance in their service contract. The idea is too new and nebulous to report in any detail, but we may be finding something of this kind adopted before too long.

The majority of replacement sales are for complete units. We find that 32% of these deals involve the installation of a furnace-burner unit, 27% get a boiler-burner unit, and only 41% involve the installation of simply a separate oilburner.

The average age of equipment being replaced is 17.3 years. This is quite an improvement over our findings the last time we made this study five or six years ago. At that time the average age was found to be 15.8 years. One difference today is that more of the replacements are complete units rather than simply the separate burner.

In the experience of the reporting group, we find that on the average their present replacements of separate burners are at the age of 15 years. On the other hand, they are replacing furnace-burner units at 18 years and boiler-burner units at 20 years. The shorter average life of a furnace-burner unit is probably influenced by the lighter weight than usually found in boiler units although the difference here appears to be only about 2 years.

On the other hand when we recall that only half of the replacements are made where the equipment has broken down, it is obvious that there is some life left in much of the equipment being replaced. However, it is desirable to replace it in order to give the family the benefit of the most modern types of oilheating equipment.

The dealers were next asked if they make any money out of replacement sales. The composite answer is that 28% of the companies find them quite profitable, 63% say they are modestly profitable and the remaining 9% say that they just break even. Obviously in this last group they are just trying to protect the fueloil account against inroads of other fuels.

DEALER COMMENTS: These were very limited this month because the printed questions filled the page. One particularly good one was, "We check on all customers' oil consumption; any that appear to be excessive are promptly studied. We make a complete heat survey and present the facts to the customer. In most instances they accept our suggestions." The other comments mostly had to do with assuring us that very little business was being lost to gas equipment in their particular markets. One dealer made a plea for better standardization of oil tank tappings and sizes.

Another dealer is replacing boiler units only 7 years old and he says these are the "tin" ones installed at the end of the war. A Massachusetts company reports devoting 100% of its newspaper advertising to replacement business, and an Indiana marketer in checking the point that replacement installations are quite profitable adds the emphasis that this is the only thing he does make money on.

In Dodge Poll: Economists predict '56 will top 1955

BUSINESS next year will be even better than this year according to the forecasts of 201 economists polled by F. W. Dodge Corp., New York, in its annual survey of opinion.

Economists generally feel that total output, measured by gross national products, will rise to a peak in the middle of 1956. Those surveyed anticipate a slight downturn in the second half of the year.

Dr. George Cline Smith, Dodge economist, said that four out of five of the economists expect the gross national product to be higher than the mid-1955 level. In addition, 84% expect personal consumption expenditures to be above prevailing levels; more than 90% expect manufacturing wage rates to increase; and 85% expect consumer prices to go up.

New construction is predicted to be about $41 billion. Housing starts are expected to decline substantially, with a total of 1,150,000, and with the rate in the second half of the year lower than in the first half.

The economists participating in the survey included 31 in financial organizations and insurance companies; 88 from business firms; 44 from colleges; 8 from government; and 30 were consultants or members of research organizations.

Canadian Standards issues Rules for boiler Inspection

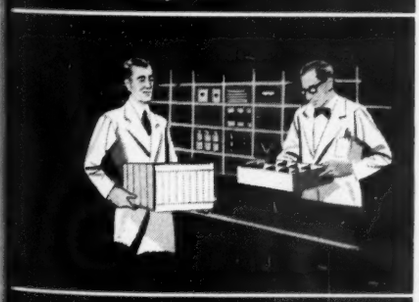
THE FOURTH EDITION of Canadian Regulations for the Construction and Inspection of Boilers and Pressure Vessels has been published by the Canadian Standards Association, Ottawa.

The regulations provide for the safe design, construction, installation, operation and repair of boilers. Copies are available from the Association at 50 cents each.

...ERYWHERE

1956

U.S.A.



A Complete Line

- **ONE SOURCE**
- **ONE RESPONSIBILITY**

For every automatic control need

FOR MANUFACTURERS: A dependable, completely reliable source of supply from a company which pioneered such major control advances as the B-60 self-powered gas control system, and custom color styling in water heater controls. A complete line for all standard applications...specialized design and engineering help also available upon request.

FOR JOBBERS: The on-call assistance of one of the nation's largest factory trained field service organizations to support the jobber's daily program of dealer development, training, and servicing—in addition to providing the convenience of local inventories for emergency demands.

FOR DEALERS: A superior product line backed by 25 years of experience in the field to guarantee against costly call-backs and servicing that cut dealer profits...plus General Controls' continuing national and regional advertising which gives the dealer product acceptance that *moves merchandise.*

1930 25 YEARS 1955

1955 SILVER JUBILEE YEAR

GENERAL CONTROLS

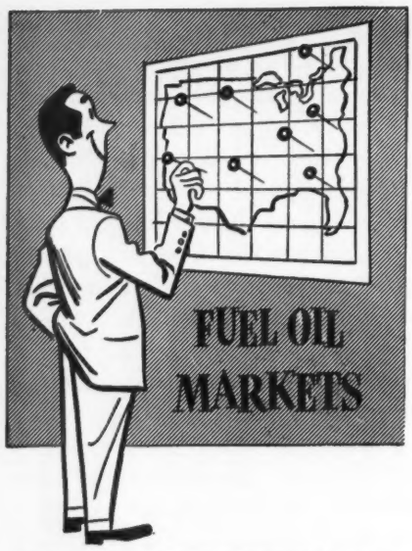
MANUFACTURERS OF AUTOMATIC CONTROLS FOR HOME, INDUSTRY AND THE MILITARY

GENERAL CONTROLS • **PERFEX CONTROLS**

40 FACTORY BRANCH OFFICES SERVING THE UNITED STATES AND CANADA

FIVE PLANTS: IRON MOUNTAIN, MICHIGAN • GLENDALE, CALIFORNIA • BURBANK, CALIFORNIA • SKOKIE, ILLINOIS • GUELPH, CANADA

Fueloil & oilheat



AS THIS IS BEING WRITTEN to go to the printer on November 17 there is every probability that there will be considerable price changes along the Eastern Seaboard before this gets into your hands. As the table shows, the half cent voluntary allowance is still in effect. This was actually a summer discount and according to original planning would have expired on September 30.

However at that time, the season was extra mild, stocks were comfortably high and the tanker rates were low. As a result the summer discount is still in effect today.

Now the first cold days of the winter are showing up and the distillate stocks at primary levels have dropped from their peak at the first of the month. More important, tanker rates from the Gulf to the East Coast jumped over the past weekend from 5% above USMC to plus 50% and one cargo was reported at plus 60%. This raises the delivered cost of No. 2 fueloil on the East Coast by a half cent. There is every probability that this will force the dropping of the summer discount within a matter of days. Fortunately, most fueloil distributors are expecting this and have their storage pretty well filled.

The other principal changes included a .6¢ rise in the tank wagon price in Cleveland and general price revisions in the Pacific Northwest. Portland, Oregon, is down a half cent at both levels. Seattle dropped .6¢ tank car and .6¢ tank wagon. Spokane was off a half cent at tank car and .4¢ tank wagon.

No. 2 Heating Oil (Including No. 3 & PS200)

Price per gallon as of November 15, 1955

	Tank Car	Tank Wagon		Tank Car	Tank Wagon
Portland, Me.	10.5†	14.2†	Richmond	10.7†	13.9†
Boston	10.4†	14.1†	Charleston, S. C.	10.4†	13.6†
Providence	10.4†	14.1†	Chicago	10.7*	14.1
Springfield, Mass.	..	..	Detroit	11.65*	14.9
Hartford	10.65†	14.2†	Cleveland	11.3*	14.3
New Haven	10.3†	13.8†	Minneapolis	10.0	13.8
Syracuse	11.3†	14.5†	St. Louis	10.25*	13.9
Albany	10.6†	13.9†	Indianapolis	10.75*	14.6
New York	10.3†	13.8†	Milwaukee	12.0*	15.0
Newark	10.3†	13.3†	Des Moines	10.0	13.8
Philadelphia	10.3†	13.2†	San Francisco	10.45	13.0
Harrisburg	..	14.3†	Portland, Ore.	11.05	13.6
Baltimore	10.3†	13.85†	Seattle	11.05	13.7
Wilmington, N. C.	10.4†	13.7†	Spokane	13.45	16.1
Washington	..	14.35†	Los Angeles	9.95	12.5

*Delivered.
Tank wagon prices shown are for maximum one-time delivery discounts.
†Subject to .50¢ voluntary allowance.

DEGREE DAY TABLES

ONE MONTH ONLY					SEASON TO DATE			
	October		Percent		Sept. through Oct.			Percent
Normal	1954	1955	Change*		Normal	1954	1955	Change*
443	355	387	—12.6	Albany AP	582	512	561	— 3.6
110	145††	138	+25.5	Atlanta AP	118	145††	138	+16.9
278	259††	224	—19.4	Baltimore AP	328	259††	258	—21.3
315	248	307	— 2.4	Boston AP	392	355	392	0
433	357	337	—22.2	Buffalo AP	555	489	474	—14.6
350	329	301	—14.0	Chicago AP	440	360	345	—21.6
222	302	258	+16.2	Cincinnati CO	264	323	274	+ 3.8
340	328	320	— 5.9	Cleveland AP	415	373	372	—10.4
53	78	54	+ 1.9	Dallas AP	53	78	54	+ 1.9
425	395	336	—20.9	Denver AP	545	466	462	—15.2
355	401	347	— 2.3	Des Moines AP	454	449	417	— 8.2
381	350	304	—20.2	Detroit AP	477	421	384	—19.5
394	374	292	—25.9	Grand Rapids CO	499	459	400	—19.8
384	300	354	— 7.8	Hartford AP	485	430	483	— 0.4
617	687	532	—13.7	Helena AP	937	972	862	— 8.0
7	36	21	+200.0	Houston AP	7	36	21	+200.0
306	343††	322	+ 5.2	Indianapolis AP	385	373††	351	— 8.8
240	247	182	—24.2	Kansas City AP	284	254	200	—29.9
41	30	58	+41.5	Los Angeles CO	58	30	64	+10.3
232	280	230	— 0.9	Louisville AP	283	293	234	—17.3
428	395††	373	—12.9	Milwaukee AP	562	487††	477	—15.1
459	530	423	— 7.8	Minneapolis AP	616	688	559	— 9.3
5	33	14	+180.0	New Orleans CO	5	33	14	+180.0
263	213	182	—30.8	New York CO	302	257	212	—29.0
331	359	305	— 7.9	Omaha AP	419	395	370	—11.7
219	198	156	—28.8	Philadelphia CO	252	216	172	—31.7
298	298	275	— 7.7	Pittsburgh CO	354	323	305	—13.8
515	424	501	— 2.7	Portland, Me. AP	714	679	747	+ 4.6
280	285	282	+ 0.7	Portland, Ore. CO	365	382	388	+ 6.3
381	284	326	—14.4	Providence AP	488	402	442	— 9.4
233	268	228	— 2.1	Roanoke, Va. AP	283	282	249	—12.0
202	258	215	+ 6.4	St. Louis CO	240	269	218	—19.2
381	399††	374	— 1.8	Salt Lake City AP	469	492††	494	+ 5.3
128	114	176	+37.5	San Francisco CO	238	232	357	+50.0
639	622	517	—19.1	Sault Ste. Marie AP	937	944	851	— 9.2
329	349	366	+11.2	Seattle CO	463	478	537	+16.0
387	374	347	—10.3	Toledo AP	489	432	439	—10.2
237	209	182	—23.2	Washington AP	274	217	197	—28.1

*Compared with normal. ††City Office.

Distillate Fueloils

PRIMARY STOCKS* (Thousands of Barrels) East of Rockies

	Nov. 11 1955	Nov. 12 1954
East Coast	60,623	54,898
Midwest	45,980	39,342
Gulf Coast	28,144	26,158
Total	134,747	120,398

SECONDARY STOCKS** (Thousands of Barrels)

	Sept. 30 1955	Sept. 30 1954
East Coast	14,100	12,475
Midwest	6,527	6,154
Gulf Coast	951	752
Mountain	450	536
Pacific	1,192	1,035
Total	23,220	20,952

*American Petroleum Institute. **Bureau of the Census.

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Amazing New LAWN Machine Enables One Driver to Do the Work of Ten Men—*AUTOMATICALLY!*

Now You Can Provide Home Owners in Your Area with COMPLETE Lawn Service—at the Astounding Rate of AN ACRE OF LAWNS PER MAN-HOUR!

SO you thought the idea of offering fertilizer spraying service during your slow season was revolutionary? Here is an even more sweeping innovation for fuel oil dealers! It can do an even *better* job of keeping *all* your office, maintenance, and truck personnel profitably engaged the whole year round. It can add even *more* to your annual gross. You'll be providing an even *more* needed service to home owners, one that will enable you to keep in touch with your regular winter customers during warm weather —and contact many *new* customers too.

Beginning *this next Spring,* you can offer your customers, and other home owners in your area, *complete* lawn service for what they now often pay for lawn supplies alone—and assure them a far more beautiful lawn in the bargain!

The Miracle of LAWN-SCAPING

The revolutionary new scientific development which makes this possible is a new all-in-one miracle machine called the LAWN-SCAPER. It does for lawns what the invention of the combine did for harvesting grain. In a single operation, and with a single unskilled driver, it does *all* the important lawn jobs that previously required many different machines or tools.

Traveling at the average speed of four miles an hour, the LAWN-SCAPER automatically mows — mulches — aerates — fertilizes — re-seeds — rolls — and controls weeds, crabgrass, mosquitoes, grubs, and insects — *all at the same time.* Using the very latest scientific principles of lawn feeding and care, it can maintain a velvety green "golf course lawn" with only five or six service calls per year. *One man* can care for 600 average-size lawns a year! No special training needed—use your own drivers.

It has been estimated that *80% of the cost of a professional lawn is labor.* By eliminating most of this cost, this remarkable automatic lawnmaker brings professional lawn care within the budget of every home owner—and still provides *you* with a greater mark-up than you ever thought possible.

Developed by LIQUILAWN Scientists

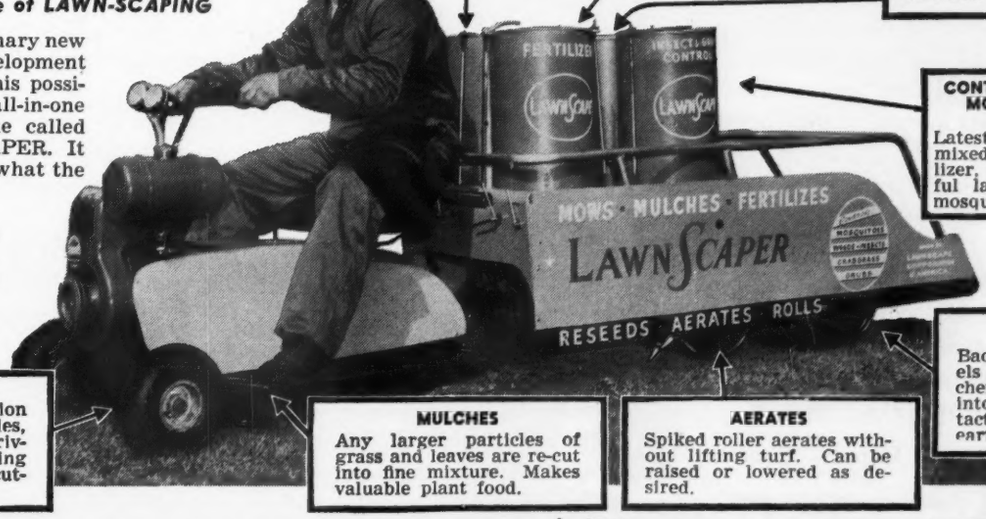
The scientific team that gave you LIQUILAWN has incorporated into this machine all the latest horticultural discoveries and advances in lawnmaking. The pelletized chemicals, spread evenly over every square inch of ground and mashed down by the roller, gives the LAWN-SCAPER the *effectiveness* of Liquilawn spraying without the bulk—and the LAWN-SCAPER does 9 other important lawn jobs besides!

FULLY PATENTED — no other machine in America like it.

RE-SEEDS
One of machine's 4 drums can carry enough seed to re-seed 50,000 square feet of lawn.

FERTILIZES
Another drum is filled with tiny free-flowing pellets of instantly soluble fertilizer. Spreading mechanism assures uniform distribution.

KILLS WEEDS, CRABGRASS
Drums also dispense latest weed and crabgrass killer. All 4 drums can flow at once.



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Latest insecticides, mixed in with fertilizer, assure beautiful lawn, no more mosquito bites.

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Fan-like suction of whirling blades, shielded from driver, lifts low-lying grasses for cutting.

MULCHES
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AERATES
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Here is the opportunity you've been looking for to expand and diversify your business. Profits from first year of operation can pay entire cost of machines and supplies many times over.

But it's important to act NOW if you want to "get in on the ground floor" of this new multi-million dollar boom. This is the kind of opportunity that occurs only once or twice in a decade. So rush coupon now for full details—or to get the information even faster, wire **Joseph Coopersmith, President, Dept. 25, LAWN-SCAPE CORPORATION OF AMERICA, Suite 2300, 11 West 42nd St., New York 36, N. Y.**

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RUSH me complete details on your new LAWN-SCAPER plan.

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Government Influences on Fuels

by
Milburn Petty

WASHINGTON — Threat of import quotas being imposed on residual fuel-oil has abated—but "voluntary" restrictions continue to hold down the volume of foreign residual being brought in.

Completing his about-face on imports, Chairman Flemming of the Cabinet fuels policy committee has decided that no government action is needed to reduce residual imports.

In September, Flemming had threatened the importers with government action unless they come up with some suggestions for making the "voluntary" import cuts more effective.

The importers had no ideas. Nevertheless, Flemming began to ease up on residual imports under pressure from New England, particularly.

Climax came when Flemming announced that, disregarding the first quarter, residual imports for the balance of 1955 will be 7,000 barrels daily less than the fuels policy committee's recommendation. So, no quotas or other action is required.

Flemming Gives Residual Data

Domestic production of residual failed to increase, despite an 8% increased demand this year, Flemming pointed out. Supply was further tightened by exports increasing 26% over 1954. Stocks dropped 20,000 barrels daily in the nine months as against an increase of 27,000 barrels daily last year.

Earlier, he had hinted that no action would be taken to help coal when he said residual imports and coal production "have both increased during this year by 20% above 1954."

Jobbers Protest Imports Cut

Meanwhile, the National Oil Jobbers Council has protested against "voluntary restrictions" on residual imports, which they say has tightened supplies to the point where prices have increased 30¢ per barrel and "some jobbers have been unable to obtain contractual commitments for their winter needs."

"We are fearful," the NOJC declared, "that if we have an unusually cold winter there will not only be further increases in the price of residual oil—but, of more consequence, we may be faced with shortage of supply."

So, the council instructed its Washington counsel, Otis H. Ellis, to continue opposing "mandatory restrictions on oil imports—however achieved."

NOJC Urges All-Purpose Flue

The NOJC also called upon the 27 state and regional jobber associations represented at the council's annual meeting in Chicago, as well as those not attending, to provide Otis Ellis with data on hardships resulting from new homes being equipped with chimneys for only one type of fuel.

Armed with this data, Ellis will renew efforts to change the regulations of FHA and other government agencies to accomplish this objective.

Also, each association was urged to work for the adoption of local ordinances to protect property owners against being restricted to using one type of fuel.

The NOJC also reiterated its opposition to federal control of gas prices at the wellhead, endorsing legislation to prevent this.

Concern was expressed over the spread of the commercial discount problem to volume sales of fueloil in some areas.

Gas Bill Faces Stiff Battle

All indications are that the Harris Gas Bill, exempting producers from direct federal control of their prices, faces an uphill battle in the Senate when Congress reconvenes.

Proponents are well aware that if any amendment is tacked on by the Senate, the bill's chances are slim because it would have to run the gauntlet in the House again where it squeezed through with only six votes to spare.

Senator Douglas (D., Illinois), a leading opponent of the Harris Bill, has charged that it would raise the average family's fuel cost by $20 to $30 a year.

He contends that gas prices would be increased by 10¢ to 15¢ per thousand cubic feet.

Meanwhile, gas producers insist that the Harris Bill, as amended in the House, "is now more of a control bill than a decontrol measure." Safeguards adequately protect consumers from runaway prices, they say.

The Federal Power Commission has made it clear in recent decisions that, if some legislation like the Harris Bill is not enacted, producers' prices will be subjected to utility-type regulation.

Such regulation, producers contend, would discourage the search for new gas reserves and dry up future supplies. They point out that gas well completions this year are 12% behind 1954 while oil wells are up 6%.

Military Distillate Needs Up

With more and more distillate needed for jet fuel in the future, the military may be faced with "a major problem," since civilian consumption is rising, too, according to Brig. Gen. W. W. White, AF, the military's petroleum logistics chief.

"To make matters worse," he continued, "research has indicated that conversion of military vehicles to diesel operation is desirable."

Pipeline Plans Crop Up Again

Soon after Congress reconvenes in January, the House Armed Services Committee likely will renew its inquiry into plans for a crude oil pipeline from Texas to California, with proponents citing "difficulties" of the military in obtaining Navy Special fueloil there.

Also, the matter of a "Giant Inch" oil pipeline from the Gulf to the East Coast will crop up again as soon as the courts dispose of the injunction suit against converting the "Little Inch" from gas to petroleum products.

Mobilization Chief Flemming says he is about ready to rule on various proposals to expand oil pipeline capacity to the East Coast with government help. Texas Eastern may get the nod on this.

Meanwhile, oil pipeline construction this year will total 4,835 miles and cost $185 million, according to compilations of the Committee for Pipe Line Companies.

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OILHEATING MEN make MARKETS

Eleventh of a Series

Northern Ohio

Trustees and officers, *Oil Heat Institute of Northern Ohio. Sitting, left to right: Trustee Raymond H. Quiggen, H. Quiggen & Son; President E. F. Marquard, Allied Oil Co.; Secretary-treasurer N. R. Steenstra, Standard Oil Co. (Ohio); Trustee E. H. Burens, Burens Heating & Ventilating Co.*

Standing left to right: *Vice-president W. W. Rapprich, Ohio Pump Service Co.; Trustee George Melbourne, Citizens Automatic Equipment Co.*

OHIO fights back

Oil Heat Institute of Northern Ohio

Norm Steenstra, Secretary

CLEVELAND—oft referred to as the "Best Location in the Nation" is a far cry from that as far as heating oil men are concerned. The city, like almost every other area of the great State of Ohio, has one of the lowest natural gas rates in the country. The 65 cents rate for a thousand cubic feet of 1050 Btu gas makes it a virtually impossible feat to sell an oilburner within the area gas main.

But even in the fact of such cost competition, the oilheating folks find it necessary and important that they keep active their membership in the Oil Heat Institute of Northern Ohio.

Seven men with their eyes on the future of oil heating sat down one cold January day in 1944 and under the far-sighted leadership of E. F. Marquard of Allied Oil Company, formed the Northern Ohio Chapter of OHI. Problems of rationing were still with us, but the coming post-war period was certainly going to be one of great expansion that would include booming heating oil sales.

The judgment of these men was not incorrect. At that time, the cost of heating a home with clean automatic oil heat was just about equal to the cost of natural gas and oil men enjoyed definite comfort advantages as consistently dependable heating was more thoroughly guaranteed when the home owner chose oil.

In two years, the membership jumped to 33 and six months later the roll included 80 active members. This spurt in membership was no accident. Co-incident with a restriction on gas heating installations, the local OHI chapter embarked on a huge membership campaign.

Heating dealers, many of whom found themselves with large inventories of gas equipment, jumped on the oilheating bandwagon and the local chapter developed a program of educating them in the proper and ethical ways to sell and install equipment. OHI sponsored advertising helped them to make even more profits than they had before.

This oil heating Utopia was short-lived. Once again gas became available in increasing quantities and the annual sale of oilburner installations decreased, and with it the association membership.

With the gargantuan growth of home building following World War II and continuing up to the present, heating oil business increased tremendously—but so did natural gas heating installations. Prices of heating oils rose—but natural gas prices didn't keep pace. Oil prices went up 72% while natural gas crept up a mere 10%.

Despite the discouraging difference in cost of the two fuels, the area continues to show increases in gallons each year. It must be quickly pointed

out, however, that we are in the position of the swimmer who for every three strokes forward is swept back two by the current.

Fortunately most of the new home building is taking place beyond the gas mains where naturally oil is most desirable fuel, but while we have been stretching out into the suburban and rural areas most of our "in the city gas main area" customers have converted to gas. Consequently, for every three new users we gain, we lose two old timers. We've had to fight every inch of the way.

Unlike many other areas of the country, very little heating equipment is sold by oil men. Nearly all of it moves through heating contractors who generally push the fuel that is easiest to sell.

A quick tour of our market shows that there are approximately a half a million centrally heated homes in the area covered by our membership. Less than one-tenth of these are oilheated, while it is estimated that more than 425,000 heat with gas. One of the utilities serving part of our area extending into other sections of the eastern part of Ohio boasts of 700,000 gas meters of which 84% have gas furnaces connected to them. This company with its comparatively low rates, adequate transmission lines, and sufficient supply, make the job of promoting oil heating all the harder.

Burners operating increase

As mentioned earlier, oilheating has not been standing still. In 1945, the area had about 4500 burners in operation, ten years later, this number has grown to ten times that size showing an 89% increase since 1950.

We like to feel that the Institute played a big role in making these gains. E. F. Marquard, our first President, is again back at the helm of the organization. "Mr. Oil Heat" as he is popularly known around Cleveland has been one of the chief pushers of the association and is largely responsible for its continued activity.

A few years ago, when the City of Cleveland was preparing a mammoth revision of its building code, our OHI Code Committee spent months working with the city preparing a code that was just and fair for the homeowner, the heating man, and the oil man.

This spring, OHI of Northern Ohio conducted a ten week oilburner service course for its members and their service men. The Institute has always keenly felt the need for top-grade service in order to protect its gains. We've found that it is an absolute necessity that oil companies maintain a burner service department and that they supply this service promptly and with thoroughly trained men.

Bitter experience has shown that when service is left to a contractor who also sells gas heating equipment oilburners he services are sooner or later replaced with gas burners.

Ninety-eight students attended our classes. A thoroughly satisfying figure in view of our one to ten ratio of oil to gas burners. Some of these students traveled over 50 miles to attend; 86% attended every meeting, indicating to the chapter that expansion of service education is a must in the future.

Bright Spot

There is one comparatively bright spot in our area. A small and growing community has just recently had gas mains installed where the new gas rate is much higher than the Cleveland rate. Here the Institute is planning a serious two-pronged campaign to keep the customers it now has and continuing to promote oil for the new homes in that area. The higher gas rate, although still below the cost of oil, gives a much better sales tool than we've had in the past,—and we intend to make the most of it.

The current membership of the Institute is 54 consisting of oil marketers, heating contractors, equipment representatives, and others associated with oilheating. Meetings are held five times a year and in addition to the regular business at hand, a speaker discusses a topic of interest to the membership planned particularly to help oil equipment sales.

One thing is certain about Northern Ohio—we know what gas competition is, and when we hear of the gas rates on the eastern seaboard, we turn green with envy and wish we had those rates to contend with here.

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Fueloil Committee, API, plans additional Projects

MEETING at the Highlands Inn, Carmel, Calif., on November 9, the Fueloil Committee of the Marketing Div., American Petroleum Institute, had an all-day discussion of some 15 industry problems. The principal purpose of the gathering was to select from these topics after discussion the two or three of greatest interest to be assigned to working groups for later meetings.

Final detailed arrangements also were made at Carmel for the Fueloil session to be held November 14 as a part of the API Convention in San Francisco.

Vining is Chairman

The chairman of the Carmel meeting was M. N. Vining of Seattle and the secretary was Robert Gray, New York. After an introduction of the 14 committee members and 21 industry guests present, Vining called on Adam Rumoshosky, API's director of marketing, to discuss the co-ordination of this committee's work with that of other groups within the Division.

Rumoshosky told of the activities of the Jobber Advisory Committee and the Marketing Personel Training Committee as being of very considerable interest to fueloil men. He urged cooperation to develop management training institutes within the industry, particularly those of statewide scope. These are of the type described in the November issue of FUELOIL & OIL HEAT where we covered the Connecticut sessions . . . also the Washington in the June issue.

Some of these institutes have had very little for fueloil men, but where they have been of interest to us some of the committee members have fostered them actively.

He also proposed that the Marketing Research Committee could be of real help to the fueloil group, particularly in connection with promotional programs. The new Operations and Engineering Committee, through its projects to standardize some phases of marketing equipment, might help our group he believes.

The chairman next read a communication from the Oil-Heat Institute, New York, recommending that the committee's name be changed from "Fueloil" to "Heating Oil." The members voted against this, but they did pretty generally support the idea that in sales and advertising activities the industry could better use the terms "Oilheating" or "Oil Heat" rather than "Fueloil."

The OHI had asked also that the committee consider supporting the cost of an oilheating display in the National Home Building, Washington. There was no decision on this but the chairman is to appoint a committee to explore the field to see how far API, as such, can go in promoting a product. Pretty generally it has been individual companies that have helped with industry promotion.

Chairman Vining then called on Gray to report on the progress of Oilheating Market Reports, the New York coordinating office that studies markets for promotional purposes. Gray told of 33 markets that have been surveyed in this effort, which started last May. Of these, 16 groups have their oilheating promotional jobs started. The 16 campaigns have a combined goal of $793,000 a year. They have raised $360,000, of which $245,000 was from local fueloil companies and the balance from the supplying companies.

From the subjects of general industry interest that were presented by the chairman for discussion, the program committee will select two or three for special committee assignment for study and preparation of papers. These will then be presented at the next meeting which is to be held in conjunction with the mid-year meeting of API's Marketing Div., May 21-23 at Atlanta, Georgia.

The 14 committee members on hand at Carmel were:

Chas. R. Holloway, Jr., Liberty Fuel & Ice Co., Portland, Ore.

Jack L. Minner, Shell Oil Co., New York.

Leon J. Boyle, Boyle Fuel Co., Spokane, Wash.

I. L. Goldman, Aurora Gasoline Co., Detroit.

Walter B. Englebrecht, Phillips Petroleum Co., Bartlesville, Okla.

J. J. Mulvey, substitute for Henry Schwartz, New York.

G. W. Sanders, The Pure Oil Co., Chicago.

John J. Buckley, American Mineral Spirits Co., Newark.

Edward P. Hacker, Ballard Oil & Equipment Co., Portland, Me.

C. M. Blickensderfer, Sinclair Refining Co., New York.

Douglas W. Smith, Standard Oil Co. of Calif., San Francisco.

LeRoy B. Fox, Socony Mobil Oil Co., New York.

M. N. Vining, Diesel Oil Sales Co., Seattle.

Robert Gray, Fueloil & Oil Heat, New York.

Committee Guests

The 21 guests of the committee attending the Carmel meeting were:

Dale Josephson, Oil Heat Institute of Oregon, Portland.

Henry Auld, Automatic Heat Co., Eugene, Oregon.

W. G. Warrington, Rossoe Mfg. Co., Seattle.

Charles R. Ainslee, Time Oil Co., Seattle.

Robert G. Elmslie, OHI of Washington, Seattle.

Chas. B. MacGlashan, Shell Oil Co., San Francisco.

Miles M. Mills, Oils, Incorporated, Des Moines, Iowa.

Mark Butterworth, General Petroleum Corp., Los Angeles.

W. I. Martin, Union Oil Co., Seattle.

Don T. Whalen, Tidewater Assoc. Oil Co., San Francisco.

Fred Griffin, Griffin Fuel Co., Seattle.

Robert G. Scully, Scully Signal Co., Melrose, Mass.

W. O. Myers, Signal Oil Co., Los Angeles.

Len Gehrke, Gehrke Fuel Co., Portland, Ore.

Robert M. Douglas, Standard Oil Co. of Calif., San Francisco.

George P. Griffis, Pacific National Advtsg. Co., Portland, Ore.

John A. Walters, OHI of Idaho, Boise.

Edmund L. MacDonald, S. Cunard & Co., Halifax, Nova Scotia.

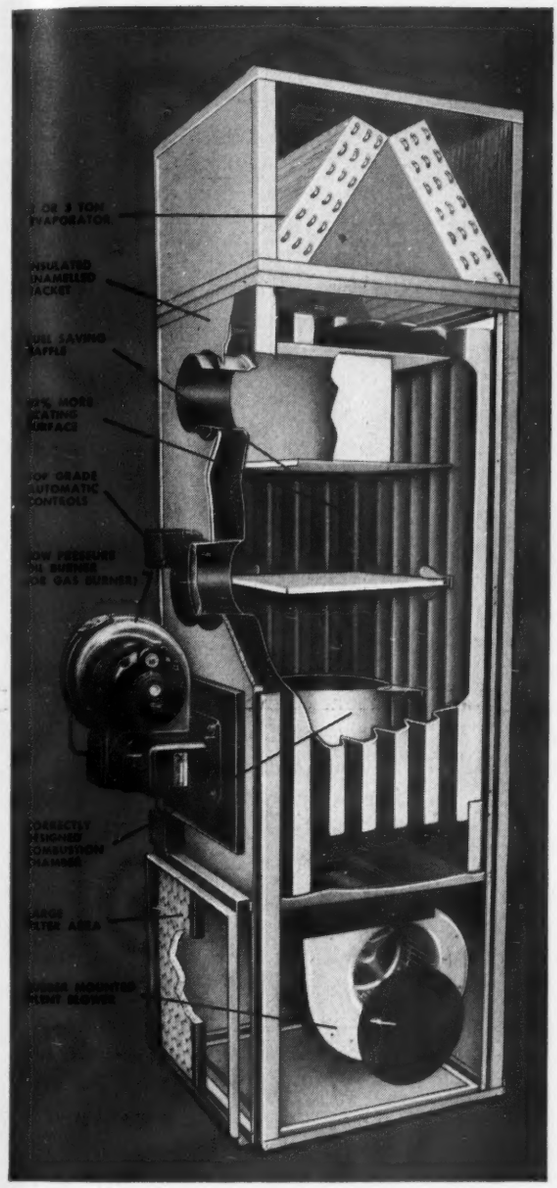
Mrs. E. L. Griffin, Griffin Fuel Co., Tacoma, Wash.

J. R. Maffi, Signal Oil Co., Reno, Nevada.

Adam Rumoshosky, American Petroleum Institute, New York.

The majority of these guests were on hand for a meeting the following day of the Regional Advisory Committee of the Pacific Northwest. This is the group that directs the cooperative advertising campaign for oil heat in four states. The Fueloil Committee members, in turn, were guests of this advisory committee that day. A full report on this subsequent activity will be published next month.

Introducing the Winkler "GO"



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Another money-maker for Winkler Franchised Dealers! The "GO" offers all the economy and dependability features of Winkler Furnaces—*with cooling equipment now added!* You have to see the "GO" to fully appreciate the quality of its exclusive design and long-life construction.

The "GO" is *flexible*—can be installed either as a complete heating-cooling system, or with the special evaporator casing left empty for future addition of the cooling coil. The compressor-condenser unit is installed outdoors.

Shipped as a complete "package", the Winkler "GO" is available in models for basement or utility room installation and for conventional or perimeter type systems. *It costs less to install*—the filter is housed in a frame which can be placed in any of five positions, assuring greater adaptability to various installing situations and lower duct costs.

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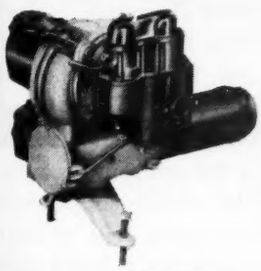
The corrugated Heat Exchanger has almost one half again as much heating surface as conventional types—transmits more heat—keeps fuel bills down.



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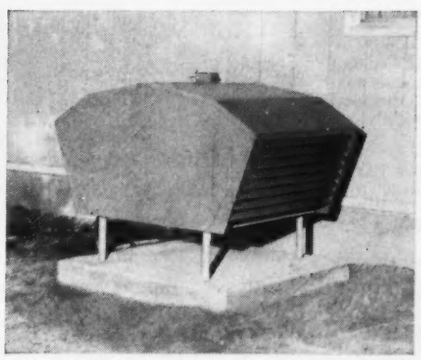
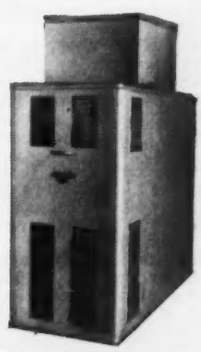
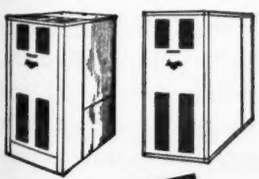
Oil-fired units are equipped with the Winkler LP low pressure burner—proved to save as much as 50% in fuel.



Remote compressor unit
Installs outdoors—no noise in the home. Available in water and air cooled models.



Model WB
For basement installation. Casing for evaporator coil is located at top of unit.



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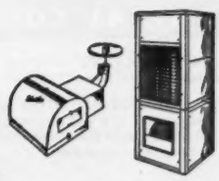

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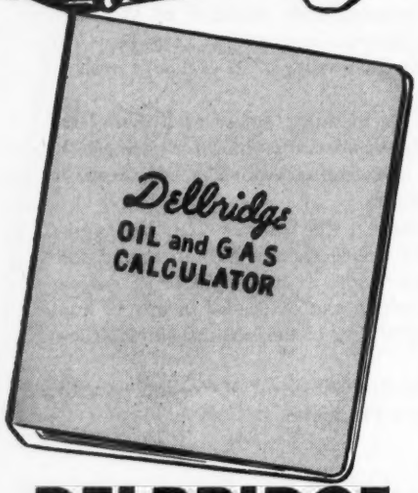

DELBRIDGE
Oil & Gas Calculator

Stop figuring fuel oil charges the old-fashioned, long-hand way! No more errors—no more dissatisfied customers!

Figure fuel oil charges fast—easily—accurately—with the DELBRIDGE Oil & Gas Calculator! Total amount of sale is *pre-calculated* for you without laborious long-hand figuring and errors—simple as finding a phone number!

Covers prices from 5¢ to 35¢ per gallon by steps of 1/10¢. Shows gallonage from 1 to 250 gallons by steps of 1 gallon—then to 5,000 gallons in easy steps.

Durable, long-lasting leatherette metal-ring binder. Only 5¼" x 6½"—fits easily in coat pocket. Guaranteed accurate by Lloyd's of London. Only $5.00 each.

Try the DELBRIDGE Oil & Gas Calculator for 10 days . . . *without obligation!* Prove to yourself how it can save time . . . cut down costly errors. Mail coupon for FREE 10-day trial. *Send no money!*

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DELBRIDGE CALCULATING SYSTEMS, INC.
2502 Sutton Ave., St. Louis 17, Missouri

Send the DELBRIDGE Oil & Gas Calculator . . . *without obligation!* We will approve your invoice for $5.00 (plus postage) within 10 days if we decide to keep the Calculator.

Name.....Title.....

Company.....

Address.....

City.....Zone...State.....

Distribution Division sponsors dealer's labor relations Clinic

ON NOVEMBER 2 the Distribution Division, Oil-Heat Institute of America, New York, N. Y., sponsored a Labor Relations Clinic for oilheating dealers. The Clinic consisted of an all-day session at Fordham University, featuring an outstanding group of speakers from state and federal agencies concerned with labor problems, moderated by Benjamin Werne, adjunct professor, Industrial Relations, Graduate School of New York University.

Approximately 30 representatives of leading oilheating dealers were in attendance to hear the presentations and take part in the open forums which followed each talk on negotiations, policies and legislation which affect oilheating dealers who sign union contracts covering their fueloil truck drivers or their installation and service personnel.

Meeting broadcast

The entire proceedings were recorded for later broadcast over the University's radio outlet, Station WFUV.

Prof. Werne opened the program with a brief statement of the objectives of the conference, explaining that, essentially, it would try to explore the things that management can do in advance of contract negotiations to inform its employees what its problems are and to communicate to the union and its members some of its difficulties. All in all, Werne stated, the conference should be helpful in letting management know about some of the things it can do to prepare and maintain an amicable climate during the negotiating period.

The first formal speaker was Alfred Ricciardi, vice-president, Pioneer Ice Cream Division, The Borden Co., who discussed workloads and seasonality. He described the situation in his business, where 60% of the ice cream deliveries are made in the four summer months and only about 4 or 5% during the winter. This poses the problem of seasonal employment, which is handled by placing all employees on a seniority list after a 60-day trial period. Then, when an employee is recalled after a layoff he is required to take whatever job is available in order to keep his seniority. He steps up as seasonal or summer jobs open up and eventually reaches the top job in his department based upon his seniority.

Incentive base Pay

Ricciardi explained that at one time his company had some delivery men on base pay plus commission and others on a straight hourly rate. Now, all drivers in the metropolitan New York area are on the incentive of base pay plus commission and one interesting result has been a reduction in the amount of overtime. Also, under this arrangement in the current contract all hours worked over 40 are accumulated to give the man time off during the slack season at base pay.

One precaution advanced by Ricciardi was that contract provisions are of little or no value unless they are policed. His company regularly checks performance records of drivers, both as to the number of gallons of ice cream delivered to stores and also the number of miles covered by the truck. Where any instance is uncovered that departs greatly from normal, a route rider is assigned immediately to ride with the driver. Ricciardi explained also that, while there was opposition to this at first, both from the union and the drivers, he was able to point out that this was beneficial to the driver as well as the company, because if the route rider could point out where the man was wasting time or motion he could improve his delivery output and thereby increase his commissions.

Ricciardi also briefly described the pension and welfare plan which has been part of the union contract since 1951. At present this requires a contribution by the company of 10¢ an hour for each hour worked to provide a $50 a month pension after 25 years and upon voluntary retirement at 65, compulsory at 68. The next con-

Tired of it?

It's done more politely . . . but let's face it . . . *factory* competition on the BIG jobs *is* like a push in the face to any dealer. That's not Perfection's way of doing business. We believe in *helping* our *dealers* get the *big* jobs—and the small ones—in their territory. What's more, Perfection offers the exclusive Regulaire and the 3-Stage Fire. It pays to ride with the manufacturer who goes right down the line with *you*. Write Perfection Industries, Division of Hupp Corp., Dept. 7618-L, Platt Ave., Cleveland, Ohio.

TALK TO Perfection
AUTOMATIC HEATING

fueloil & oilheat

NEW—cleaner, neater appearance

NEW—ease of adjustment permits more precise settings

NEW—improved dial arrangement is easier to read

NEW—closer differential on fan

NEW—clear-faced lucite window

All Models Vastly Improved

All Crise controls have undergone a major "face-lifting." Their improved appearance has been matched by engineering advances that result in closer operation, longer life and greater ease in setting. Now, more than ever, Crise is the *value leader* in *quality* temperature controls. Write for catalog and price list.

CRISE CONTROLS DIVISION

ACRO MANUFACTURING COMPANY

COLUMBUS 16, OHIO

tract, Ricciardi remarked, undoubtedly will increase pension payments and liberalize qualifications.

An analysis of the role of the National Labor Relations Board in collective bargaining was next offered by James Jaffee, assistant regional director of the Board, by reviewing the highlights of the Taft-Hartley Act as they applied to the fueloil industry. He premised his remarks with the observation that the NLRB cannot in itself solve your labor problems nor make them more difficult; it merely sets up ground rules for labor negotiations for both union and management.

He explained that the Board participates only in labor problems that are concerned with interstate commerce and stated that definite standards have been established to determine when a firm was participating in interstate commerce. A representation type election—the first step in securing union recognition—may be requested by either the union or the employer, Jaffee said, and the employees may petition to have a union removed as bargaining agent.

Unfair labor Practices

The Board has no power to initiate investigations but acts only with the filing of unfair labor practices, Jaffee continued. Explaining the difference between a union shop and a closed shop, he pointed out that the closed shop, which requires a man to join a union before he is hired, is prohibited under the Taft-Hartley Act. But, the contract may require a man to join the union within 30 days after he is employed and the NLRB will enforce this provision, providing that the union has filed under the Act the required financial data and loyalty affidavits and is certified by the Board.

In essence the NLRB requires both union and management to sit down and discuss at reasonable times their labor relations and when an agreement has been reached to effect a contract. There are certain procedural requirements to be observed, such as 60 days' notice in writing of a desire to terminate or modify a contract.

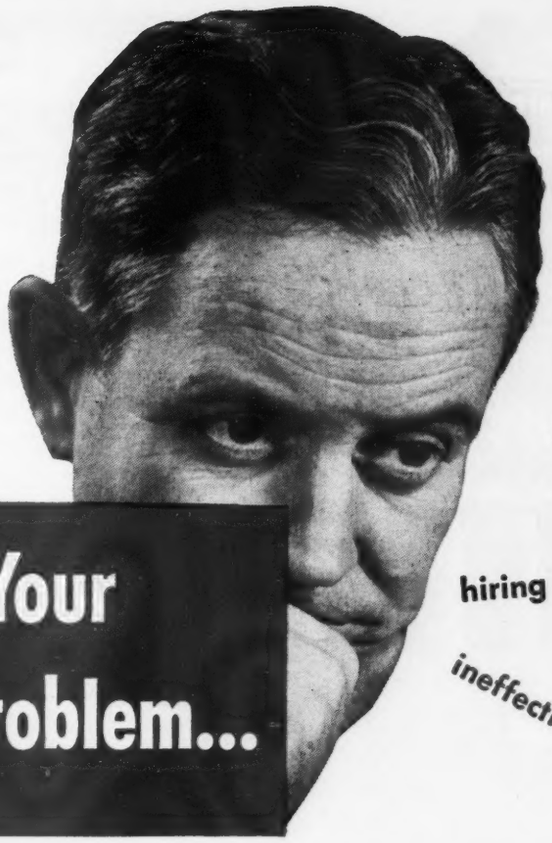
Where once wages, hours and conditions of employment were the principal concern of the NLRB, Jaffee de-

poor equipment

incomplete line

delayed shipment

inadequate advertising



price cutting

installation problems

management problems

getting live prospects

hiring and training salesmen

ineffective merchandising

Name Your Toughest Problem...

TIMKEN *Silent Automatic* HELPS YOU SOLVE IT...PROFITABLY!

Exclusive Written Fuel-Saving Guarantee Gets Sales!

Yes, prospects turn into buyers *fast* when you offer them factory-backed guaranteed savings up to 25% with Timken Silent Automatic Oil Heat! And well-recognized name means easier sales for you, more happy customers. But that's not all. Look at this really complete Dealer Franchise Profit-Making Program!

Equipment . . . the finest oil-heating line in the business. And most complete size range for homes!

Installation...factory service schools train your men. And field engineers help you crack the tough installation jobs, difficult layouts.

Delivery . . . Strategically located, complete line warehouses end problems of "too little, too late."

Management . . . Business Management Counsel—a plan that lets you "call on the experts" about your management problems.

Salesmen . . . the Manpower Campaign—how to screen, hire and train top salesmen.

Getting Prospects . . . field salesmen will work with you on store displays, merchandising, local advertising, direct mail, replacement campaigns, and general sales problems.

Advertising...the strongest factory-paid advertising campaign in the business. A generous reimbursement plan to help you pay for your own local advertising.

Price Cutting . . . they can't touch you. Only Authorized Dealers handle Timken Silent Automatic. And that's not the half of it. A Timken Silent Automatic Dealership MEANS BUSINESS.

Hi-Furnaces, Counter-Flo Furnaces, Lo-Furnaces, Conversion Burners, Cast Iron and Copper Coil Burners

TIMKEN
Silent Automatic
OIL HEAT
SCAIFE COMPANY
TIMKEN SILENT AUTOMATIC DIVISION • OAKMONT, PA.
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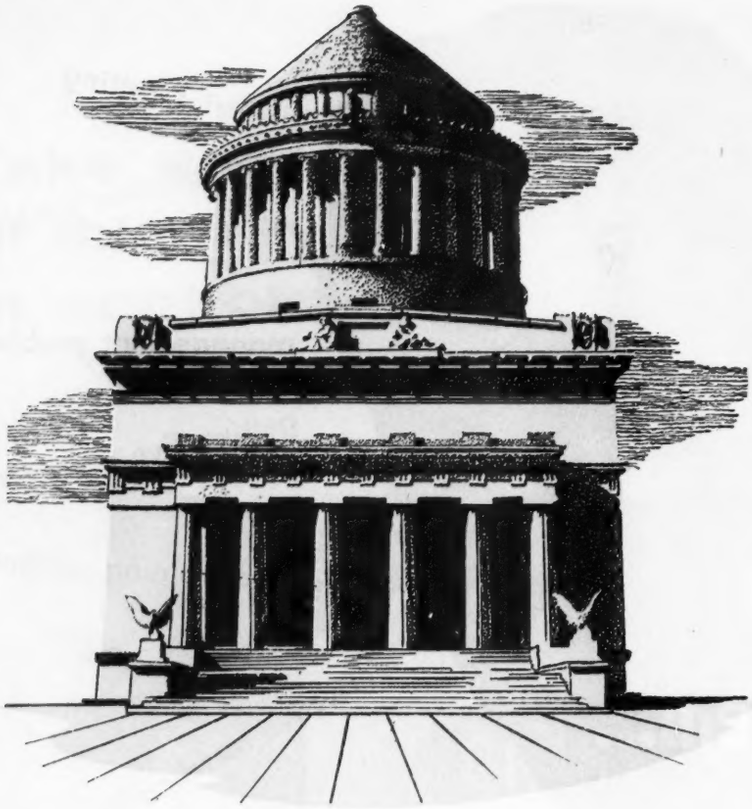
Accepted S.A. Standard

Write today!

Get ALL the facts on a Timken Silent Automatic Dealership. Address Sales Department, Scaife Company, Timken Silent Automatic Division, Oakmont, Pa.

fueloil & oilheat



Everybody knows where Grant's Tomb is...*but*

do newcomers in town know where to find you . . . or what products and services you offer?

Tell them the quick, easy, 'Yellow Pages' way. Your advertising messages in the 'Yellow Pages' of the telephone directory give you two important sales advantages:

(1) The 'Yellow Pages' go into practically every home, office and factory in town. They're everywhere your prospects are.

(2) The 'Yellow Pages' work for you every day, all day — whenever a prospect is in a buying mood.

Turn newcomers into new customers . . . and remind old ones by having complete coverage in the 'Yellow Pages'—display ads and listings where prospects will be looking for you.

Advertisers of branded products are using this emblem to tell prospects how to find their dealers.

MORE INFORMATION? Call your local telephone business office. There's a trained representative ready to help you.

clared that today the area of bargaining requirements is much broader to include grievances, merit increases, pensions and welfare benefits, profit sharing and possibly stock purchasing. However, there can be no requirement to bargain on an illegal matter and employers are obligated to furnish the union with a list of employees to show seniority, wage rates, etc. In fact, the Board has said that practically any information which the union requires to bargain properly or evaluate offers must be furnished by management, if it is not otherwise available.

Welfare Programs

Concluding the morning session was a presentation by Samuel Ain, consulting actuary, on "Welfare Programs in collective Bargaining." Beginning with welfare benefits, he described their scope as encompassing: Death benefits, either before or after retirement and which may also provide for double indemnity; temporary disability benefits; hospitalization; surgical and medical benefits. As an adjunct, there may also be provision for hospital, surgical and medical benefits for dependents.

Ain briefly described the administrative set-up of such funds and the trustees who administer them. There are two methods of operation, he continued, one which requires the employee to make no cash payments on such things as hospital or medical bills and the other which requires him to first pay and then apply to the insurance company for reimbursement.

The contributions by the employer, as an example, Ain said, have to be converted to the premiums charged by the insurance company so that the relationship between premiums and contributions must be studied carefully. Also, a reserve fund is needed to offset any drop in hours worked or size of the employment force, both of which affect contributions. And finally, a high record of payment of benefits by the insurance company may cause a rise in premiums upon contract renewal.

A pension plan was described by Ain as a systematic program to accumulate funds and make payments from them to eligible persons after their retirement. It may be a company-

Modern Truck Features That Mean Business!

Chevrolet trucks have got it! A full list of modern features that mean better business—on the job today and at trade-in time tomorrow!

When you get right down to it, any truck without all of Chevrolet's Task-Force features is still living in the past. Why risk losing money with an old-fashioned truck—both on the job and at trade-in time—when you can get a Task-Force model with the industry's most advanced features?

Most modern power—V8 or 6. There's longer life in Chevrolet V8's (extra cost in most models). With their short-stroke design—shortest of any leading truck—you can count on less friction and wear per mile. If you go for sixes—Chevrolet's gas-saving valve-in-head sixes are famous for their dependability. All engines are sparked by a modern 12-volt electrical system for quicker starting and smoother going!

Most modern comfort and safety features. New efficiency boosting advances like panoramic windshield, High-Level ventilation, softer seat action and concealed Safety Steps!

Most modern chassis features. New suspensions; new, more rigid frames; Power Brakes standard on 2-ton models!

See your Chevrolet dealer for details. . . . Chevrolet Division of General Motors, Detroit 2, Michigan.

NEW CHEVROLET *Task-Force* TRUCKS

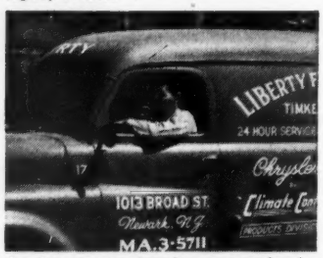
CHEVROLET

fueloil & oilheat

Dispatcher has immediate contact with service men, preventing waste mileage, giving top service.

"Over-all Efficiency Is Up 15-18% with RCA 2-Way Radio"

. . . says Howard Dornbusch — Liberty Fuel Oil Co. Officer



Service men start from home, get orders by radio, and Service Manager is continually aware of what is happening.

At Liberty Fuel Oil Company, Newark, New Jersey, RCA 2-Way Radio is used to dispatch nine service trucks and to provide field supervision control in the Service Manager's coupe. Executive Vice-President Howard Dornbusch, who manages the company, had had experience with radio in Uncle Sam's service and recently, after trying it out in one truck at night with great success, he made the RCA installation.

"We figure our over-all efficiency is up 15-18%," says Mr. Dornbusch. "Drivers frequently save as much as 20-25 minutes on a call. It's a big selling feature for customers, too," he added, "and we figure we pocket at least $1,000 a year on phone calls, in addition to other savings."

Regular office personnel can operate RCA 2-Way Radio . . . just like your telephone. A truck can be reached whether it's moving or parked. Drivers can talk to the office whenever needful. And customers are always enthusiastic about the fast service they get.

Find out what RCA 2-Way Radio can do for your operation in improving service, attracting new customers, reducing waste mileage, cutting costs. Use coupon. To assure satisfactory operation, the RCA Service Company provides installation and service facilities from coast to coast.

For the Best in 2-Way, Say "RCA"

RADIO CORPORATION of AMERICA

COMMUNICATIONS EQUIPMENT **CAMDEN, N. J.**

Radio Corporation of America, Communications Equipment
Dept. Z-252, Building 15-1, Camden, N. J.

Please send me reprint of article, *"Radio Speeds Delivery and Service"*

NAME_____ TITLE_____

COMPANY_____

ADDRESS_____ COUNTY_____

CITY_____ ZONE_____ STATE_____

☐ *Have an RCA Communications Specialist call.*

operated or an insurance trust plan, but in either case, Ain cautioned, it should be Internal Revenue approved. Requirements for such approval include a definite program of coverage, an irrevocable plan of contributions and a non-discriminatory plan.

In a general review of typical pension plans. Ain revealed that most of them use 65 years as a retirement age, principally because it coincides with Social Security benefits; the benefits may relate to periods of service or salary; may provide for temporary or permanent disability and may provide death benefits, but this is not usual in union plans.

Contributions of employers generally are fixed on some basis and, while no mean contribution can be determined because so many plans are just getting under way, 5¢ an hour is typical.

Union Contracts

Prof. Werne followed with a brief discussion of some controversial clauses in union contracts. He began with a review of the practical realities of negotiation, including the element of competition, political connotations and the heritage factor, whereby acceptance of a condition or practice on one occasion can result in demands that the acceptance be made permanent.

The provision in some contracts, Werne continued, that an employer can discharge an employee for "just cause," actually is unilateral rather than bilateral, because if the union does not agree with the employer it may terminate the agreement.

Principally Werne spoke about establishment of the proper climate for negotiation and listed these "Don'ts":

Don't have undue recourse to administrative bodies. This usually results only in a succession of dilatory or diversionary tactics.

Don't be too cocky.

Don't demand too much.

Don't confine yourself to overly stringent rules.

Don't fail to follow the dictates of sound administration.

Concluding, he observed, that if management won't face up to the responsibilities of bargaining, the unions

MORE MACK DIESELS..

COASTAL TANK LINES

TRANSPORTATION OF PETROLEUM AND LIQUID PRODUCTS

YORK, PA. September 22, 1954

EXCELLENT FUEL ECONOMY of our year-old fleet of 12 Mack B-61T's with Mack Thermodyne Diesel engines was the predominant factor in our recent repeat order for 24 more Model B-61T Mack tractors.

These units are hauling gasoline and chemicals in 5550 gallon tandem axle semi-trailers on mountain runs through West Virginia. Yearly mileage of each is between 60,000 and 70,000 miles.

Our drivers and operating personnel are also very well pleased with the road performance, chassis weight, appearance, cab roominess, visibility and low maintenance.

We have good reason to be proud of Mack tractors in our fleet.

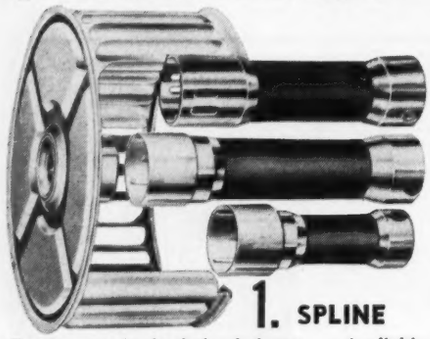
H. I. Moul
President

Can you afford not to own Macks?

QUALITY is our business ..without *any* compromise

***AND ONLY* Guardian**

GIVES YOU ALL THREE —



1. SPLINE

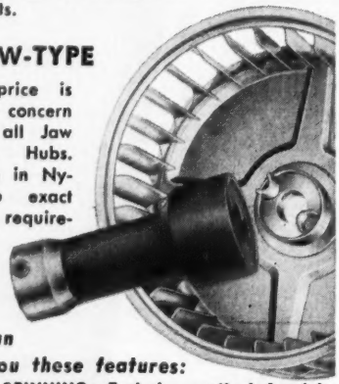
Quality standard of the industry — Available in Silent Tension Aluminum or DuPont Nylon

2. REGULAR

Ultimate to correct misalignment — Furnished in 1/6 to ¾ HP ratings for Oil Burner Requirements.

3. JAW-TYPE

Where price is of prime concern — Fits all Jaw (Lovejoy) Hubs. Available in Nylon to exact length requirements.



Only Guardian gives you these features:

1. **ROLL SPINNING—Exclusive method for joining all three components at one time—Actually made in position of final driving operation.**
2. **BRAIDED RUBBER—Ground to absolute true concentricity. Furnished with BUNA-N TUBE and NEOPRENE COVER. Holds to strict Lateral and Angular Alignment standards.**
3. **ONE-PIECE DESIGN—Minimizes assembly and handling costs—Cut to exact length requirements.**

There are over 4,000,000 Guardian couplings on original equipment. This is your assurance of highest quality and enthusiastic acceptance in the field.

COUPLING SERVICE KITS

Standard and Economy Kits complete with bushings for replacement. Lengths and bores meet 95% of existing field requirements.

Write for literature and prices of Guardian's superior line of tank valves. Most complete in oil burner industry. Soon with Fusible feature and Cast Brass for Price and Project requirements.

Guardian PRODUCTS CORP.

COUPLING DIVISION

Dept. F-125, 1231 E. Second Street
Michigan City, Indiana

can't be blamed for making the most of their opportunities.

The first of three mediation officials to participate in the program was Joseph DeFide, chairman, New York State Labor Relations Board. He explained the Board is concerned chiefly with union representation, the right of workers to organize for collective bargaining and unfair labor practices. Anyone can file a petition, he explained, to hold a secret election to verify union representation.

Unfair labor charges when filed are referred to a labor relations examiner who attempts to correct the condition. Nearly 90% of the cases are resolved at this informal level, DeFide pointed out. If the issue is not resolved, on the other hand, the case goes to the Board itself and eventually to trial if violation is determined. The Board's decision, DeFide continued, is not self-enforcing and respondent may have decision reviewed by courts.

Intra-state companies are under the State Board exclusively; inter-state companies fall under the National Labor Relations Board. DeFide outlined New York State's policy to take jurisdiction where the National Board either has none or refrains from assuming jurisdiction.

Walter Maggiolo, commissioner of mediation, Federal Mediation and Conciliation Board, reviewed his agency's jurisdiction, remarking that the basic responsibility to maintain labor peace rests on the parties involved and not on the government; only when parties can't settle their differences does the government intervene.

He explored the three methods of settling labor disputes:

Arbitration, where a dispute is referred to a third party whose decision both union and management agree beforehand to accept;

Fact-finding, where the third party merely determines facts and may or may not make recommendations which are not binding;

Mediation, a voluntary process where an impartial third party helps the parties to come to a decision. The mediator neither makes recommendations nor awards; he simply helps to solve disputes.

Final speaker was Louis Yagoda, assistant executive director, New York State Mediation Board, who described a mediator as a catalytic agent to hasten the process of solving a labor dispute.

Actually, he said, contract negotiations are military operations taking place while writing the peace. They represent power and persuasion in an atmosphere of conflict, with communications between interested parties.

I-B-R Meeting highlights Advertising and Promotion

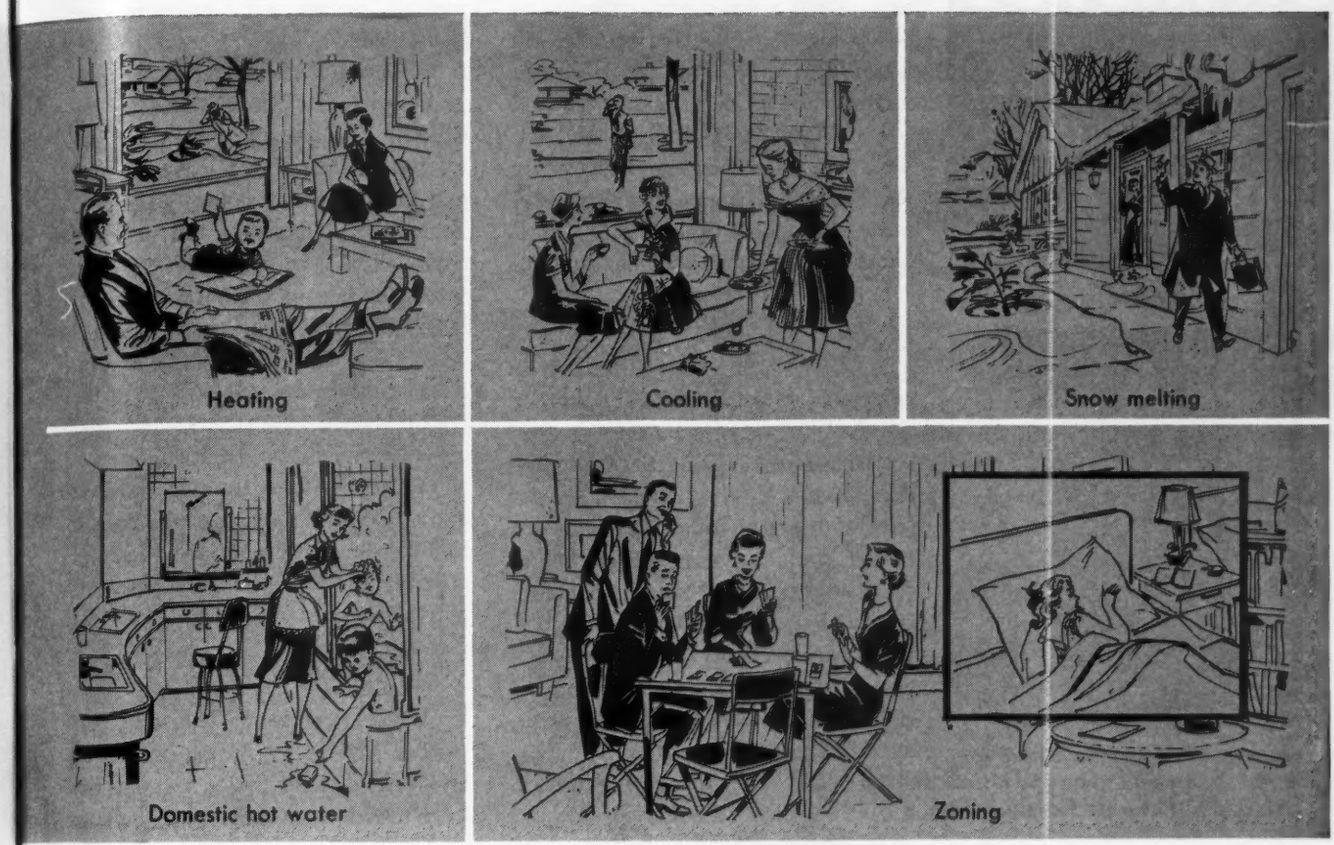
SALES OF HOME HEATING and cooling equipment produced by the hot water and steam heating industry "will reach an all time record in 1955," it was forecast at the 40th semi-annual meeting of the Institute of Boiler and Radiator Manufacturers, held at the Seaview, Absecon, N. J., November 8 through 11.

Robert E. Ferry, general manager, announced that, based on shipments thus far, "sales of home heating boilers will be up approximately 30% over 1954 and sales of baseboard type of radiators will be up about 40% over the same period." Since new, non-farm housing starts for 1955 are expected to show little if any increase over 1954, he pointed out "the spectacular sales increase for the hot water and steam heating industry indicates that the industry is rapidly widening its share of the home heating market."

He estimated that as of this year, approximately 10 million of the 20 million centrally heated housing units in the United States are heated by hot water or steam systems.

While no figures are available for sales of summer cooling and airconditioning systems used in combination with hot water heating, Ferry stated that the substantial increase this year in the number of Institute member companies manufacturing such equipment "indicates a wide market for

you ALL FIVE



The B&G Booster

Famed for quietness—for efficiency—for long, dependable service! This is the preferred circulator for residential forced hot water heating systems, circulating service water, snow melting systems and as secondary pumping units in larger installations. Over 2,000,000 B&G Boosters have been sold to date!

B&G *Hydro-Flo*® PRODUCTS

for heating and cooling with water

The label "B&G" is your assurance of the finest in water system equipment. Over a quarter century of continuous growth is sound evidence that Bell & Gossett products have won the approval and confidence of the heating industry.

A complete line of water heating, circulating and auxiliary equipment enables you to specify B&G throughout ... for an integrated installation carrying one manufacturer's guarantee. B&G *Hydro-Flo* Products include—

Booster and Universal Pumps for heating and cooling systems • Industrial Centrifugal Pumps • Package Liquid Coolers • Refrigeration Components • Flo-Control Valves • Monoflo Fittings • Relief Valves • Reducing Valves • Self-filling Valves • Compression Tanks • Airtrol Systems • Air Vents • Comfort Control Systems • Motorized Valves • Indirect Water Heaters • Heat Exchangers

BELL & GOSSETT COMPANY

*Reg. U. S. Pat. Off.

SAVE TIME ON THE JOB
•
SAVE FUEL FOR YOUR CUSTOMERS

Install

NU STANDARD KOLBKAST COMBUSTION CHAMBERS

Here's why you'll save time on the job, fuel for your customers when you install NU STANDARD Kolbkast Combustion Chambers:

- there are only six pieces to assemble
- tongue and groove construction fits together quickly, snugly
- galvanized steel bands draw the assembly tight—prevent gas loss and improve combustion efficiency
- the base, recessed ¼", provides an air space that gives better insulation to the floor
- millions of air cells in the structure of the chamber itself retard the transfer of heat through chamber walls
- insulating properties are equal to insulating brick

The NU STANDARD can be used with high or low pressure burners and it is available in five sizes to meet all your requirements. Shipped complete with steelbands and scientifically packed to prevent breakage. Shipping weights are low.

Get full details today on these low cost chambers.

KOLB REFRACTORIES CO.
MEADOW & JACKSON STREETS
PHILA. 48, PA.

KOLBKAST INSULATED CHAMBERS

these systems, in both new and old homes." In 1954, only 7 member companies offered cooling and air conditioning equipment he noted, while this year nearly 3 times as many firms are producing it, an increase of nearly 200%. Reasons for the upsurge he said include the rapidly increasing demand for summer cooling in combination with hot water heating. Particularly the "add-on" type of cooling equipment which may be added to a new home at any time at the owner's option.

Another good Year

Looking ahead to sales and marketing prospects for 1956 Ferry said that the industry was "expecting another very good year. While industry forecast depends to some extent upon the level of home building, and a serious fall-off could have an adverse effect, there appears to be no reason to expect such a decline. Also demand for hot water baseboard heating is steadily rising. And in any case," he emphasized, "the tremendous market in home modernization estimated at 15 billion dollars that exists today will provide a more than ample buffer for any decline in the rate of new home construction. This is a particularly significant market for heating and cooling system manufacturers since modernizing heating systems or adding summer cooling to increase the living comfort of an older home is a leading desire of millions of current home owners."

Another plus sign on the Institute's scoreboard for the year, Mr. Ferry announced was the addition of 8 new companies to I-B-R membership. This makes a total membership of 58 companies including 3 Canadian members.

Development of the market for summer cooling in both new and old homes he reported has for sometime been a major target of the Institute's sales promotion program. Such activities as the I-B-R technical training program which includes the publication of installation guides and the sponsoring of University short courses for heating contractors—are emphasizing the summer cooling market. Also the I-B-R research program at the University of Illinois has been developing new methods of adding summer cooling to older homes. The Institute is working as well with the Air-Conditioning and Refrigeration Institute to develop improved cooling and airconditioning methods for use with hot water and steam systems.

The second major aim of the program he noted continues to be the training and encouragement of contractors to install hot water heating and chilled water cooling systems in homes more efficiently and at lower cost. To date, he stated, the "rapidly increasing sales of hot water baseboard heating systems indicate the installed cost of hot water heating is being reduced considerably. A big part of the reason is that more than 10 thousand contractor-students have been instructed under the I-B-R training program and are applying advanced design and installation techniques to their heating-cooling jobs for home builders throughout the country."

Round Table

On the afternoon of Thursday, November 10, the concluding portion of an all-day general session was devoted to a round table meeting on selling, merchandising, advertising, promotion and publicity. Six speakers from I-B-R member companies each presented a successful case history of selling some phase of hot water heating.

At the conclusion of each formal presentation, a panel of six "Old Masters" commented on the talk. The "sages" were: Carroll Baumgardner, National-U. S. Radiator; H. C. Day, American-Standard; Joseph Murphy, Taco Heaters; E. N. McDonnell, McDonnell & Miller; V. A. Good, Burnham Corp.; N. W. MacNichol, Warren Webster.

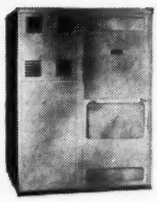
H. D. Bissell, Minneapolis-Honeywell Regulator Co., presented the first plan, describing the methods used by his company to sell the concept of zone control for domestic heating. Zone control has been common on commercial heating jobs, Bissell explained, but it was only in 1948 that the first domestic application was completed. Later in 1950, Honeywell ran the first consumer advertising, offering zone control for luxury homes.

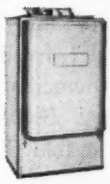
Selling an idea is a long range proposition, continued Bissell, and while

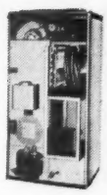
Luxaire® UNITS

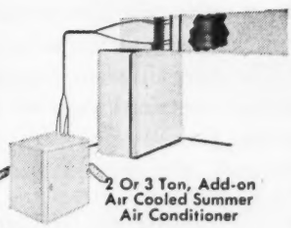
Have a "REPUTATION" for Excellence ... for Trouble-Free Performance

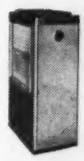
YET...they cost no more!

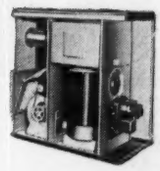

5 Ton Year 'Round Air Conditioner


2 Or 3 Ton Basement-Utility Year 'Round Air Conditioner


2 Or 3 Ton Counterflow Year 'Round Air Conditioner


2 Or 3 Ton, Add-on Air Cooled Summer Air Conditioner


2, 3 Or 5 Ton Water Cooled Summer Air Conditioner

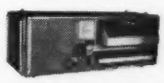

Gas Or Oil Basement Winter Air Conditioner

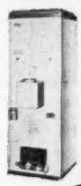
Gas or Oil Utility Unit

Gas or Oil Gravity Furnace

Incinerator With or Without Gas Burner

Gas Fired Unit Heater


Gas and Oil Horizontal Furnaces


Gas or Oil Counterflow Unit

A UNIT FOR ANY JOB

Most Furnaces Burn EITHER GAS or OIL

Why?

Start with the Cabinet. It's attractive — with gracefully rounded corners and a mar-resistant, glossy baked enamel finish. It's rigid — of heavy gauge steel. It's tight — with a sturdy steel floor for which no grouting is required.

Consider the Heat Exchanger: It's durable — of heavy gauge steel, welded into a single, leak-proof, gas-tight unit that is free of expansion and contraction noises. The efficient, cylindrical design conforms to the natural shape of the heating flame, permitting interchangeable use of either an oil or gas burner.

The improved, single-port Luxaire Gas Burner is clean-burning and trouble-free. The gas regulator is equipped with an ingenious STEPFLOW device with a slow opening feature for smooth, gradual, silent ignition.

The pressure atomizing Luxaire Oil Burner is exceptionally quiet, efficient and economical — a dynamically balanced unit that assures less maintenance, longer life.

For Cooling, Luxaire units are both air cooled and water cooled — both types charged with Freon and Hermetically Sealed at the factory.

Yet, **volume manufacturing with efficient production methods keeps your cost exceptionally low!**

Why not start gaining **your reputation**, now — with Luxaire? See your Luxaire jobber!

.... with EVERY UNIT COMPETITIVE in PRICE

THE Luxaire® C. A. OLSEN MANUFACTURING COMPANY • • ELYRIA, OHIO

HEATING & AIR CONDITIONING UNITS

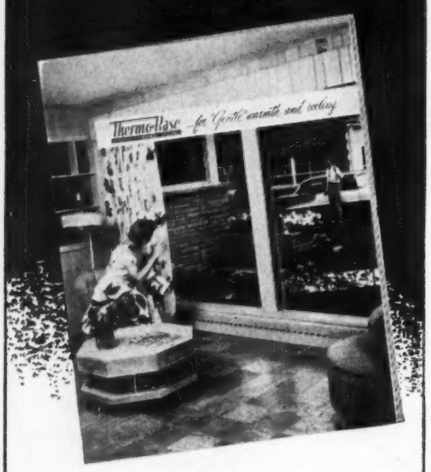
fueloil & oilheat

YOU OWE IT TO YOURSELF AND YOUR BUSINESS TO READ THIS

Thermo-Base

BASEBOARD • HEATING • COOLING

CATALOG BEFORE YOU INSTALL ANOTHER HEATING SYSTEM!



This beautiful new four-color catalog explains the revolutionary, nationally advertised, Thermo-Base system of heating and air conditioning. It will help you get **more** heating jobs and enable you to install the most comfortable and efficient baseboard air distribution system available.

The catalog also contains the exclusive Thermo-Base method of sizing both heating and air conditioning jobs and can save you **hundreds of hours of estimating time yearly.**

CLIP and MAIL THIS COUPON NOW!

Thermo-Base Div., GERWIN INDUSTRIES, INC.
Dept. 21, Michigan City, Indiana

Please Rush me your new Catalog!

NAME _____

COMPANY _____

STREET _____

CITY _____

STATE _____

today zone control is being used in 9% of the new homes, this progress has been achieved only after intensive educational programs aimed at magazine editors, architects, dealers and installers. For those operating at the retail level, also, the company has provided a complete set of merchandising aids, for consumer and technical assistance for field application.

M. L. Lundgren, Vulcan Radiator Co., described a somewhat similar program his company undertook recently to sell fin-tube radiation that provided both heating and cooling. Basically it was pure selling, he said, introducing a product that at the time was completely new, which required detailed explanation to both the public and the trade. The company leaned heavily on dealer meetings, newspaper and trade paper publicity and announcements in consumer and shelter magazines.

The over-all plan, Lundgren concluded, contained these six phases of action: Formulate, factuate, stimulate, instigate, educate, and operate.

Selling to Builders

R. S. Doherty, National-U. S. Radiator Corp., followed with a description of the success his company has had selling hot water heat to builders, whom he described as manufacturers of houses which they have to sell. To capitalize on this point, Doherty said National stopped selling builders as such; instead they sold a heating comfort system. Sell the builder ideas rather than products—ideas that help him sell the houses he erects, Doherty continued; he wants quality at a price he can "afford."

The National-U. S. Radiator program to sell wet heat to builders has resulted in sales to prospects in normally warm air markets, Doherty went on, indicating the measure of success which has been achieved. Specifically, the program was based on complete product analysis and appraisal, plus organization education and backed with a comprehensive promotion and merchandising schedule.

The problem of "Selling Quality" was tackled by E. B. Cole, Crane Co., who defined quality as a good product, which even though the price is high, offers excellent value. As a corollary, he said, if people are convinced that equipment is a quality product, they not only will want it, but they'll buy.

All in all, Cole pointed out, it pays to glamorize products for distinct quality appeal. And, as an example, when Crane introduced its Sunnyday boiler, each salesman received a 3-D kit with slides featuring hard-hitting sales features on the back of each. Then when a dealer was viewing the slide, the salesman was able to key his appeal to the sales point highlighted on the slide. The features emphasize the quality built into the unit.

Industry-Wide Promotion

Cole advanced five features for industry-wide promotion to sell hot water heating quality: Warm comfort; protects family health; extra long life of boiler; freedom from worry and pride of ownership.

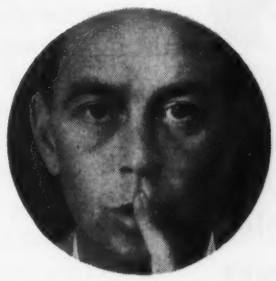
A. Brown, Brown Products Co., next told the story of how his organization had introduced its Mono-Aqua chilled water system on a low budget. The system was purposely designed to appeal to plumbing and heating contractors along the lines of a conventional one-pipe system with standard fittings. The reasoning was that the installers would readily grasp what was required to install the equipment, even though they might not be too familiar with cooling equipment. In addition, Brown Products supplies piping and electrical layouts, along with factory help if needed to simplify sizing, installation and design of chilled water cooling systems.

Thus, combining simplified equipment design with small size trade advertising and dealer education schools, Brown was able to introduce a completely new product and build up almost immediate acceptance.

Final panel presentation came from R. W. Williams, American-Standard, who gave details of the Boilermaker Campaign undertaken by his company to obtain "customers for our customers." The plan is intended to help the trade sell equipment by aiding them in developing reliable leads, encouraging the dealer to promote hot water heating and build up a prospect list.

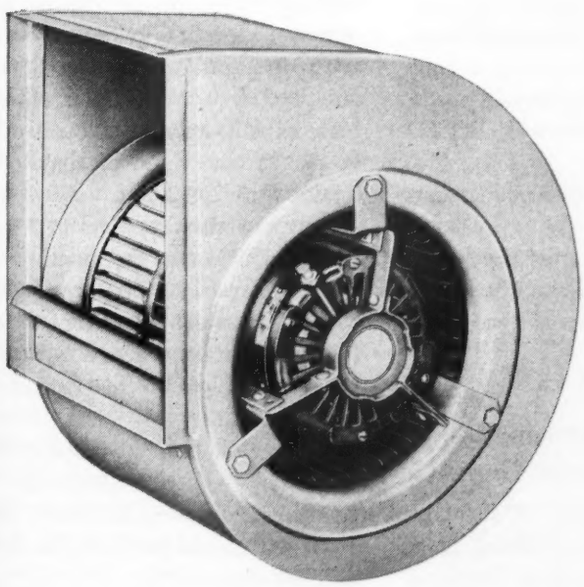
Launched with national advertising,

GO DIRECT TO UTILITY



FOR SILENCE

IN DIRECT DRIVE BLOWERS



A lot of air doesn't have to make a great big noise. As a matter of fact, Utility's Direct Drive Blowers have practically no-sound operation due to the new Neoprene hubs which isolate motor noise and vibration. The first to utilize this far-advanced feature, Utility consistently pioneers in high speed production development. This enables us to pass on to you the top quality of our engineering combined with a rock-bottom price.

Adaptable to the manufacture of heating, cooling, refrigerating and ventilating equipment, these silent direct drive blowers also require less space, have no unnecessary accessories and can be speed-controlled easily.

Tested and re-tested, they are the product of Utility's advanced engineering and low-cost production techniques. You can now offer your customers the kind of equipment that includes silent operation and all other Utility exclusive features. Check Utility for blowers, blower parts or any combination of parts — and discover for yourself . . .

YOU CAN'T MATCH UTILITY FOR PRODUCT AND PRICE

A Division of Utility Appliance Corporation

UTILITY FAN CORPORATION

911 East 59th Street, Los Angeles 1, California

Producers of blowers and blower parts for original equipment manufacturers. Manufacturers of heavy and standard duty blowers for heating, air conditioning and ventilating installations. Write for catalogue data.

...Get the
SOOTMASTER
Filter Unit

SOOTMASTER Filter Unit, designed for easy installation in container of G. E. and Premier Furnace Cleaners, eliminates the outside bag. Gives double protection against leaks and blow-outs. THROW-AWAY BAG provides a safe and easy method of dirt disposal.

$19.75 Complete with 10 throw-away bags and quick-release tie-cord.

- *Order from your jobber*
- *Jobbers' inquiries invited*

Master-Craft
SUPPLY CO., INC.
HAVERSTRAW, NEW YORK

the campaign offers the dealer a complete promotional package, including automatic direct mail program, local advertising, radio and television commercials, poster-streamers, publicity and a packaged consumer contest, in which the contestant who most closely predicted the weather on Thanksgiving Day received an America-Standard boiler as a prize.

The complete story of the program was disseminated to the trade by carefully planned mailings and a tabloid newspaper. A further stimulus is advertising run by American-Standard and listing participating dealers in 69 newspapers in key cities.

Highlighting the increased awareness of the importance of merchandising to sell hot water heating was a series of panel board displays prepared by manufacturer members showing their advertising and promotion campaigns. Awards were made as follows:

Best publicity to the trade: Brown Products Co.

Best publicity to the consumer: Vulcan Radiator Co.

Best sales promotion to trade: Crane Co.

Best consumer advertising through the dealer: H. B. Smith Co.

Best trade magazine advertising: McDonnell & Miller, Inc.

Best direct mail to consumer: Crane, Ltd.

Best consumer magazine advertising: Minneapolis-Honeywell Regulator Co.

Best campaign of dealer education: Bell & Gossett Co.

Best advertising-promotion campaign to dealer: American-Standard.

Special award of merit: Taco Heaters, Inc.

❖

Survey of burner-fueloils released by Interior Dept.

INFORMATION CIRCULAR 7730, published by The Bureau of Mines, U. S. Dept. of Interior, is entitled "National Survey of Burner-Fueloils, 1955."

It is the first report of its kind; previous studies conducted by the Bureau under an agreement with the American Petroleum Institute covered diesel fuels. The present study resulted from an extension of the same agreement at the request of the Oil-Heat Institute of America.

Data on a total of 341 samples of fueloil are represented. The fuels were produced by 35 petroleum refining companies, large and small, in 97 refineries throughout the country. Data are divided into five groups according to fueloil grade and each group is subdivided into five tabulations according to the geographic marketing distribution of the various fuels represented. The geographic areas are five general regions of the country containing 14 districts in which these fueloils are marketed.

Summaries contain results of the tests by grades and by regions. Average values of selected properties are shown for the number of fuels represented and minimum and maximum figures are given for all tests indicated, where possible.

Interested parties may secure copies of Information Circular 7730 from the Bureau of Mines, Washington or from Oil-Heat Institute of America, 500—5th Ave., New York 36, N. Y.

❖

October contract Awards are down: Dodge Reports

CONTRACT AWARDS for future construction were 5% below October of last year according to Dodge Reports, published by F. W. Dodge Corp., New York. October total construction in the 37 states east of the Rockies totaled $1,862,692,000.

This was the first time in 17 successive months that the monthly total has not exceeded the corresponding month of the year before. The residential classification when compared to 1954 was down for the second successive month.

October totals are as follows: Nonresidential — $691,988,000, up 3%. Residential — $782,791,000, down 8%. Utilities and public works, $387,913,000, down 12%.

Ten month totals are running well ahead of last year. Total construction reported, $20,027,736,000, up 22%. Nonresidential — $7,107,396,000, up 20%. Residential — $8,748,341,000, up 24%. Utilities and public works—$4,171,999,000, up 20%.

Oilburner Sales to be higher in 1956

Board predicts better Showing by concentrating on new Building and home Improvements

by
Peter B. B. Andrews

DESPITE WIDESPREAD SENTIMENT among many authorities that new housing starts in 1956 will decline from those of 1955, the majority judgment of the Board of Analysts of Future Sales Ratings is that market potentials for the coming year are such that oilburner sales in 1956 should at least equal or slightly exceed those of the full year 1955.

Consensus of estimates thus indicates that domestic central heating burner installations in 1956 will compare most favorably with the approximate 830,000 installations estimated for the year 1955. This is close to the industry's best year, comparing well with the big Korean-War-buying year 1950 when installations totaled 846,815, and with the year 1954, when some 738,048 burners were installed.

These views represent the common-denominator feeling of the Future Sales Ratings Board, which comprises 300 economists and marketing men, both in government and private industry. It is the most experienced economic-predicting board on all the nation's industries in the world, having forecast for the past 21 years with a favorable batting average of accuracy the future-sales potentials of the 110 leading industries of the United States, of which oilheating is one of the economically most important. Complete list of the industries covered is published quarterly in *Sales Management*.

Sag in new home building starts is by no means viewed complacently; however, the majority feeling is that any prolongation of this trend is sure to entail government action to ease mortgage terms and re-stimulate this industry which is so vital to the general welfare of the nation's economy. It is felt that if the building trend merits it, credit terms will be substantially eased in 1956 with a rebound in new housing.

The board believes that 1956 will be an excellent year for new home building. For all the talk of declining family formations ahead due to low birth rates in the early '30s, it is felt that the far more significant figures to watch are the long term totals of marriages in relation to the total new homes built over the years. The board emphasizes the great need for new housing in view of the important fact that marriages in this country have vastly outdistanced the rate of home building starts for many years.

A tremendous gap between homes built and marriages developed in World War II, and the accumulated pile-up of married couples without homes of their own has grown in each year since. The figures in the accompanying table on these vital series of data show the high differential, pointing to great pressure ahead for new housing and, therefore, for oilburners.

Some of these marriages, of course, have broken up through divorce, deaths, etc., but even if one were to take only a very conservative half of the above cumulative difference there would still be almost 7,000,000 couples not provided with new housing. Considering the mere 1,300,000 annual home-building rate which is current, and the continued existing disparity between home building and marriages, there should actually be a large increase in such construction if these needs are to be filled adequately.

The board feels that in 1956 the oilheating industry should be taking greater advantage of its potentials, which are likely to be considerable. Improve-your-home drives, stimulated by the effective efforts of such strong organizations as the National Association of Home Builders, National Retail Lumber Dealers Association, Producers Council, National Electrical Contractors Association, U. S. Savings & Loan League, National Association of Real Estate Boards, Portland Cement Association, the National Lumber Manufacturers' Association and the National Chamber of Commerce's Construction and Civic Department, joining forces with some 40 building material producers and equipment manufacturers, are viewed by the board as potentially stimulating to oilburner sales.

Operation Home Improvement, under the great drive of this group, will promote the idea that 1956 is the year

Year	*Home Building Starts*	*Marriages (U. S. Total)*	*Difference*	*Cumulative Difference*
1954	1,220,400	1,476,000	255,600	13,570.257
1953	1,103,800	1,533.000	429.200	13.314,657
1952	1,127,000	1,540.000	413,000	12.885,457
1951	1,091,300	1,594,904	503,604	12,472.457
1950	1,396,000	1,667.231	271,231	11,968,853
1949	1,025,100	1,579,798	554.698	11,697.622
1948	931,300	1,811,155	879,855	11,142,924
1947	849,000	1,991,878	1,142.878	10,263,069
1946	670,500	2,291,045	1,620,545	9.120.191
1945	209,300	1,612,992	1,403,692	7,499.646
1944	141,800	1,452.394	1,310,594	6,095,954
1943	191.000	1,577,050	1,386.050	4,785,360
1942	356.000	1,772,132	1,416.132	3,399,310
1941	706.100	1,695,999	989.899	1.983.178
1940	602,600	1,595,879	993,279	993,279
TOTALS	10,621,600	25,191,457	13,570,257	13,570,257

to improve one's home. The entire campaign will be directed at making it easy for homeowners to get the job done. Importantly, too, these efforts, which cannot help but benefit the oilheating industry, will have the blessing of the Administration in Washington, with an official launching in January, 1956. This helpful campaign will continue throughout 1956, and will be financed by manufacturers and associations.

Operation Home Improvement

For further perspective, it might be noted that Operation Home Improvement will fill the last gap in the nationwide program to meeting housing needs. The other major needs, home building and slum clearance, tie in with the Housing Act of 1954 and work of the American Council to Improve our Neighborhoods.

Approximately 20,000,000 of the 45,000,000 non-farm homes of the U. S. today are in need of major repairs, with 5,000,000 rock-bottom slums. Several millions do not even have hot water and seriously need such basic equipment as oilburners. Programs now under way by the American Council are designed to stimulate the rehabilitation of replacement of substandard housing and the conservation of the housing now in good condition. The likely success of these programs, the board feels, should have a beneficial effect on the oilheating industry.

This year's proportion of people planning to buy homes within two years is larger than the proportion in three earlier annual surveys. Moreover, prospectively rising incomes for 1956 should help to fulfill some of these plans. Employment, wages, disposable personal income, liquid-asset margin over debts and similar economic factors are strongly emphasized by the board as pointing up the excellent buying foundation ahead. Confidence of businessmen and the general public is inspired by a broad business boom, and the strong finances of the American economy.

Important in the housing supply and demand estimates is the figure of withdrawals from housekeeping of unfit or condemned units. The estimate

Peter B. B. Andrews

of 250,000 to 300,000 units is well above previous estimates of 40,000 to 50,000, showing a desirable stepping-up of demolition of unit dwellings. Aside from home rehabilitation and home construction, the over-all total of construction is of great importance to the oilheating industry. At least 70% of all office buildings and plants are in need of some rehabilitation or extension. The upsurge of commercial construction generally is tremendous and likely to reach still further highs.

Construction gains

In 1955 total construction expenditures for the full year will show at about $42,000,000,000, a gain of about 11% over the previous record of $37,600,000,000 established in 1954. The $42,000,000,000 approximate total will be comprised of an estimated private expenditure of close to $30,000,000,000 (14% over 1954) and public outlays of $12,000,000,000 (about 4% over 1954). About half of total private outlays are for residential construction, which was close to a new record, in contrast to the pessimistic forebodings of some analysts that home building would decline in 1955.

Fundamentally, the board feels, the oilheating industry must tie in closely with the broader trends of events in the nation's economy and the consequent results on the typical company's and the consumer's buying power. In that respect the board has a strong feeling of optimism, with a corresponding favorable bearing on the future of the oilheating industry.

Despite record-breaking retail buying, liquid assets of consumers have climbed to new heights. Individuals throughout the country now own a total of $411,000,000,000 estimated by the board of such assets as cash, bank deposits, savings and loan shares, insurance and government securities. That compares with $398,300,000,000 at the end of 1954 and $324,300,000,000 at the end of 1950. In addition to this, individuals own another $300,000,000,000 of corporate stocks and bonds.

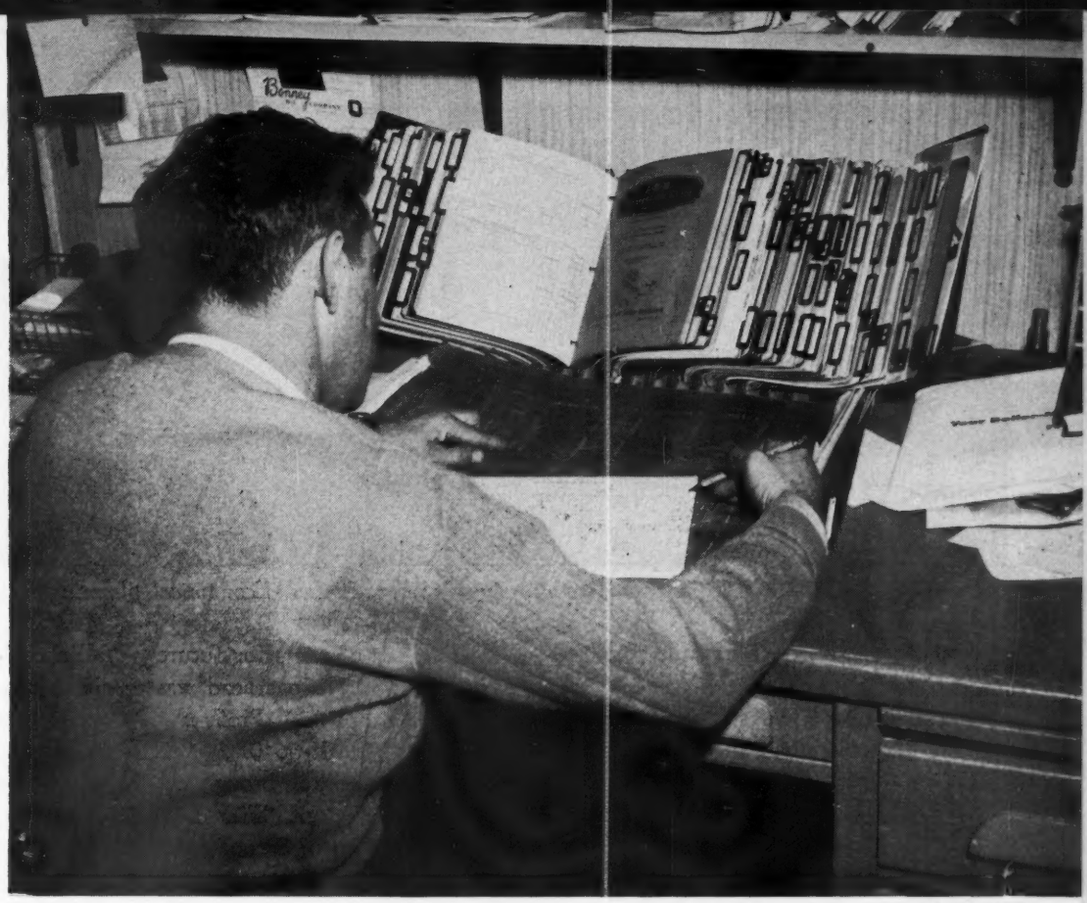
Furthermore, disposable personal income continues to advance impressively, now approximating $265,000,000,000, a gain of more than $10,000,000,000 over 1954. For comparative perspective, it might be noted that total retail sales in 1954 were only $170,700,000,000.

Credit is up

Of course, there is a debit side to this, too; individuals mortgage debt and consumer debt approximates $100,000,000,000, consisting of about two-thirds mortgage debt and one-third consumer debt. That is up from $53,600,000,000 at the end of 1950, but this is merely a reasonable rise in such debt and is not considered by the board to be out of proportion to the general advance of the economy.

The approximate $600,000,000,000 existing net equity of total U. S. individuals (financial assets less liabilities) represents a record high of savings, auguring very well indeed for better business and demand for most of the fine products of the American industrial system, including oilburners.

Much of the great buying power of 1956 should be convertible into sales through strategic and persuasive advertising and promotion. The sentiment of the board is that those who will be promotionally weak in 1956 will not equal their 1955 results, but that there will be enough alert, sales-expansive-minded people in the oilheating industry to capitalize on the excellent over-all sales potentials of 1956, thus topping their 1955 records and bringing the aggregate average up over 1955.



Hot water Heat is Competitive

Waltham, Mass. oilheating Dealer sells quality Heating and keeps down installation Costs

HE'S NO HIGH PRESSURE SALESMAN. He's no fast talking operator. He installs only hot water heat jobs. Yet when the bidding is against any type of residential heating system, he usually finds it easy to be "low man."

That's Anthony Algeri, an oilheating dealer of Waltham, Mass., who has perfected his approach to selling and installing hot water heat in any size home, large or small. In fact, builders are knocking at his door.

Algeri, who directs his organization under the name Bonney Oil Co., is simply a clear-thinking businessman who tackles problems with the tenacity of a bull dog's locked jaw. Because of this, he can come up with sensationally low bids like the one he submitted on a $13,700 house—$640—and that leaves considerable room for profit.

Selling fueloil hasn't been his major problem. For, although the fueloil business in Waltham is a challenging contest, the most formidable problem Algeri had to overcome was making hot water heat—the type of heating job he preferred for its quality—competitive with other types of heating systems offered by price-shaving contractors.

Algeri found a solution and made hot water heat competitive. Yet he didn't sacrifice quality, either in installation or equipment. This was what builders were looking for. As a result, Algeri's installation work jumped 300% in four years. Indirectly, a 100% boost in fueloil sales was achieved. This year's oil sales are expected to run to a million and a half gallons.

How could he do it? What could help him make hot water heat competitive? After some study and hard work, Algeri arrived at a simple, practical answer containing three points:

1. Cut costs by learning the right way to "shop" for materials.

2. Cut costs by using only the approved I-B-R (Institute of Boiler and Radiator Manufacturers) methods for calculating heat loss and installation, to eliminate additional expense of oversizing.

3. Cut costs by developing a systematic installation procedure to save time and labor.

"Observe these points and hot water heat becomes competitive," says Algeri. "But don't overlook quality equipment," he cautions. "If these points are kept in mind and quality is maintained—and it can be done—then you'll gain a reputation for giving the builder or homeowner exactly what he wants. And then your reputation will do most of your selling."

To see how Algeri puts his three points to work, take as an example the house for which his bid was $640. It should be noted that Algeri insists the three points work as effectively in other houses, regardless of size or whether he is bidding on a single dwelling, or a group of dwellings in a project.

House in point is a one-family Cape Cod cottage consisting of four rooms, a bathroom, expansion attic and full basement. Construction is wood frame, wood shingle siding, and Ruberoid shingle roof. Insulation, according to

Profit margin *is trimmed for development houses. Economical planning makes it pay.*

VA standards, is one inch in walls, two inches in ceilings. The house is now on the market at $13,700.

Algeri specified 231 square feet of radiation (he used convectors here but holds that baseboards would be just as suitable and economical). He also specified an oilfired cast-iron boiler rated at 73,000 net Btu, a 3 gpm built-in domestic water heater, and all the necessary controls and accessories (see accompanying list of costs). Capacity of the boiler is more than adequate to heat the expansion attic when the owner wishes to do so.

His total estimate for materials and labor amounted to $527.01, and this included two sets of risers for future rooms in the attic. His overhead was figured at 5% for $26.35. Profit was listed at $86.64. Total: $640.

"Two questions may be brought up immediately," says Algeri. "First, how much do I pay my men? Second, isn't the profit, which is a little over 15%, low? To the first let me say this. Although we aren't a union shop, we pay better than many others. Our men get between $2.00 and $2.25 an hour. Helpers receive $1.75. As for the second question, profit is an intangible thing. You certainly can put yourself out of business by taking the wrong slant.

"Look at this: there were 50 houses involved in this job, and it takes two men only one day to install the system in each house. With four men working 25 days to complete such a job, we take in a total of $5,649.50—above and beyond our entire cost for material and labor. That's not low, that's dollars and 'sense'."

But a one-house job is another story. In this case, Algeri arbitrarily adds $50 to make the profit better than 25%. Although this is done—and it's done because the job can't provide the benefits of volume installation techniques—the bid is still competitive if the three points are adhered to.

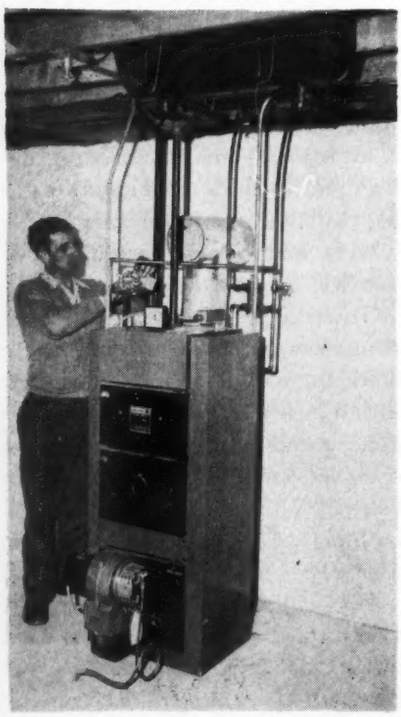
And getting back to the three points, here's how Algeri applies them to any and every residential job:

1. By shopping right, Algeri doesn't mean buying inferior products. He uses all I-B-R rated equipment, and for equipment where I-B-R ratings don't apply, he buys nothing but the best.

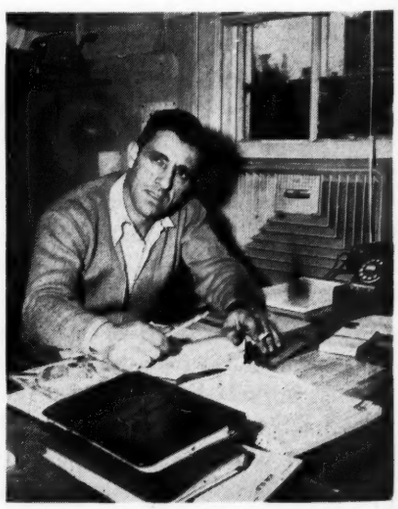
Prices he pays for equipment include minor discounts which can be obtained by the smallest dealer. They would be even lower for the dealer who takes advantage of volume discounts, or who can reduce costs by keeping a large stock on hand.

What Algeri means by shopping right is this: Don't buy foolishly, don't spend money unnecessarily. To cite an example, Algeri will compare two oilburners of which the component parts are the same, particularly the parts that will be subjected to wear and will result in a costly call-back, if they are inferior. They both have good parts: same make motor, same make transformer, same make pump, same type of high quality aluminum casting.

Experience has shown Algeri that both units do a dependable job, provide the same results. Yet one burner is considerably more expensive.



Typical *of the installations described in the article for homes like those above.*



Anthony Algeri's *pencil work figures heat losses; makes for competitive bids.*

"Just learn to shop right," Algeri points out. "You'll save on the original purchase and still be able to stand behind every job you do."

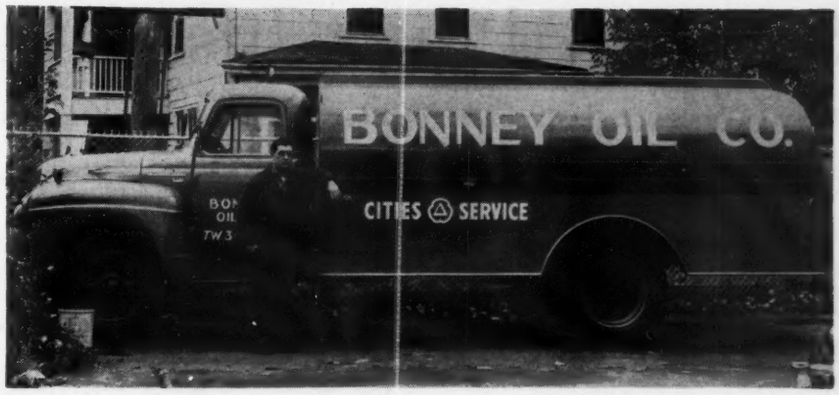
2. Algeri is completely sold on the I-B-R method for calculating heat loss. A two-time student at the Institute's schools, he admits that he first entered the classroom with a skeptical attitude, doubting he could add anything to the knowledge he already accumulated.

"I left the classroom loaded with new ideas," he recalls. "I put them to work immediately and they've been earning money for me ever since. I found that when I dropped the rule of thumb method I'd been using and took advantage of I-B-R procedures and guides, I stopped oversizing and cut costs of material as a result.

"The method works fine. Materials are reduced up to 40% and costs up to 10%. I've never had a complaint or been called back to a job as a result of calculating heat loss."

3. As for cutting labor time by using a systematic procedure of installation, this can be developed best individually by each dealer. On the house in question, Algeri used one man and a helper. Roughing-in was completed in half a day, the complete installation finished in another half day.

There was no prefabrication of systems at all, or assembly-line practices



applied to the 50 houses as a whole. But wherever time-saving steps could be employed they were used. Main principle used by Algeri is to follow a procedure whereby both men constantly have something to keep them busy. In other words, they work together on parts of the installation where two men are needed to facilitate the job. Then they work separately where possible, and if one finishes his part of the job first, he moves in to help the other.

When it comes to merchandising hot water heat, Algeri is well known in Waltham and surrounding communities for doing a top notch job at a low price, so his established reputation does most of his selling.

Although most builders understand the characteristics of hot water heat, Algeri realizes that some are not always alert to the selling points possible for them to use as merchandising builders. Some, in fact, don't even know that since hot water heating uses a built-in domestic water heater, the cost of a separate domestic hot water heater is saved. Such builders aren't completely aware of the benefits of hot water heat, so for them a basic sales talk is called for, Algeri explains.

He also does a first-rate job obtaining fueloil customers from this type of work. In the development of 50 homes mentioned here, he managed to obtain 95% of the business. He did it simply without involving the builder.

Algeri philosophizes that if the heating system is installed and the builder hears nothing more about it—including annoying complaints for minor adjustments—then he's satisfied. To accomplish this, Algeri hangs a card on the boiler explaining that his firm has installed the system and can be called for service. Anyone who calls, or who just happens to see the card, usually winds up being a customer for fueloil.

But there's a clincher. From the local banks, Algeri obtains the names of the families which have moved into each home. Building his own mailing list in this way, he sends letters to the new homeowners explaining that his firm, the installers of the heating equipment, will extend the manufacturers' one-year guarantee on parts to cover two years on equipment, plus two years' free service and summer cleaning on boiler and burner.

As long as building goes on in Waltham—and they're not running out of room yet—Algeri will continue to make money using his three points for installing hot water heat. If there's any refinement that will polish his three points, he'll find it, and use it.

Algeri's Estimate of Materials

Quantity	*Item*	*Amount*
1	Cast Iron Boiler No. 351 I-B-R rating 73,000 net Btu	$149.40
1	High pressure Oilburner	69.00
1	Oil tank (275 gals.) and fittings	35.00
1	Pump (1″)	34.50
1	L 847 s.w. Control	13.50
1	Draft regulator (8″)	1.25
1	Flow control valve (1″)	5.60
1	Dual pressure reducing and relief valve	6.00
1	Air cushion tank (15 gal. ex.)	5.50
1	Built-in domestic water heater (3 gal.)	14.50
—	Pipe, valves, fittings, hangers (includes two sets of risers for future rooms in attic)	50.00
231	Sq. ft. radiation	96.26
5	Radiator air valves	2.50
—	Smokepipe (8″)	3.00
—	Electric wiring (done by others)	...
16	Hours labor (pipe fitter and helper)	36.00
—	Incidentals (starting and testing)	5.00
	Total Cost	$527.01
	Overhead 5%	26.35
	Profit	86.64
	Bid	640.00

This estimate *of materials is a condensed version of the list on the reverse side of* I-B-R *Calculation Sheet 1001. The front of the sheet provides space for all the tabulations needed to arrive at heat loss requirements for individual installations.*

Simplified duct Installation

Part II instructs Dealers in locating Openings and roughing-in for perimeter Systems

by
Carl Machia*

IN THE FIRST SECTION, we discussed the location and roughing in of supplies and returns for a conventional warm air duct system. In this section, we will deal with the location of openings and roughing in for the perimeter type warm air system. The perimeter system makes possible easier and quicker installations at lower operating costs all adding up to a satisfactory heating job.

By blanketing the outside walls with warm air, cold drafts can be minimized, even temperatures and better comfort achieved. The installation itself is so simple that it affords a heating man with or without a sheet metal shop or special equipment an opportunity to really get into the warm air picture.

The location of perimeter supply and return openings is just opposite to that of the conventional system. Supplies must be located in the areas of the greatest heat loss—along the outside walls and near windows.

From my experience, it seems that the floor diffuser gives the best results, inasmuch as it provides the benefit of greater aspiration effect than with a baseboard location. Objections to the floor location sometimes come from a homeowner who dislikes the idea of cutting a new floor or who plans on installing wall-to-wall carpeting. But once you explain the benefits of the floor location, most people agree to its use.

In locating the supplies, the number of outlets required is determined from the heat loss calculation. When using a floor diffuser, cut the register opening 7" out from the wall. This allows the air to move up and fan out along the wall in front of the drapes or curtains. For floor outlets, use a 2¼" x 14" or 2¼" x 12" floor diffuser.

Fig. 9 shows this installation using a prefabricated perimeter floor box, with a register opening 2¼" x 12" and a cellar opening of 3¼" x 12" to fit standard leader duct, or transitioned to fit small perimeter sizes of duct.

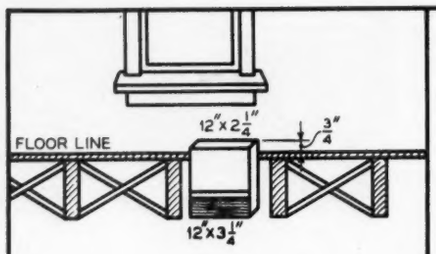
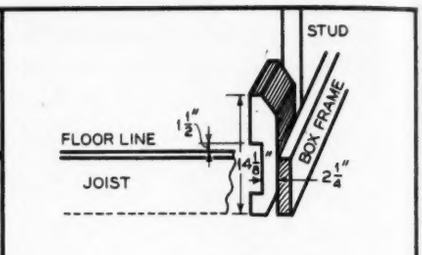


FIG. 9 PERIMETER FLOOR BOX (FRONT VIEW)



PERIMETER BASEBOARD (SIDE VIEW) FIG. 10

If the owner rejects the use of floor diffusers, your next choice is baseboard diffusing registers. Stack heads for these are cut into the outside walls, the same as a conventional stack head, but, unlike floor diffusers, they should be kept from under windows, if possible. We have found that at night some people close drapes, thus trapping the air and cutting off the spread that is necessary. Fig. 10 shows this installation.

Another widely used system in perimeter heating is the extended baseboard system. Main trucks and leader pipes are identical to the baseboard or floor diffuser system. The only difference is in the diffuser itself. Cut in a floor box, approximately ¼" from the finish wall, then detach the back part of the diffuser and cut an opening in the bottom section. Place this opening over the floor box and fasten the back plate of the diffuser to the studding. Do not attach the front section until the plastering has been done. This diffuser can be supplied with built-in volume dampers.

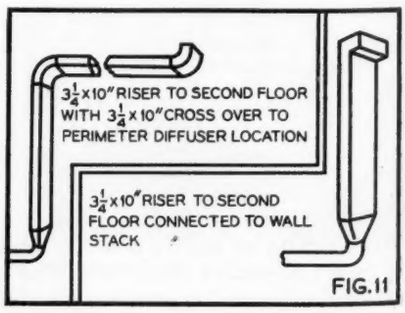
A detailed sheet on this type of diffuser may be secured from your register supplier.

As for a fitting, I have used a prefabricated perimeter baseboard stack head that works well. It is a stack head and elbow all-in-one fitting which cuts the installation time in half. (Fig. 10 shows this fitting.) Roughing-in time is reduced as the throat is 2¼" and eliminates cutting into the box framing.

For second floor runs on a perimeter system, use standard 3¼" x 10" stack pipe, as in Fig. 11. The reason for this is the long distance from the extended trunk to the stack head, which we will discuss more thoroughly in future articles.

Notice in all pictures of fittings that stack heads are made for rectangular duct, all of which can be made or bought prefabricated. My experience has been that rectangular duct gives better performance, has more appeal to homeowners, is easier to install.

In roughing in perimeter ducts you may find there is no outside wall space for a register in the kitchen, because of built-in cabinets or washers. Utilizing the kick space under the cabinets provides an effective solution. By using a perimeter floor box, cutting in the 2¼" opening through the kick space and the 3¼" opening down through the floor, you have a ready made kick space register box. Fig. 12 gives an idea of this type of installation. This location also may be used for the conventional type installation.


3¼x10" RISER TO SECOND FLOOR WITH 3¼x10" CROSS OVER TO PERIMETER DIFFUSER LOCATION
3¼x10" RISER TO SECOND FLOOR CONNECTED TO WALL STACK
FIG. 11

*Supervisor of warm air duct installations, Duc-Pac Division, Swett Bros., Springfield, Mass.

Return air in a perimeter system represents a much simpler problem than in the conventional type. Many engineering books tell you that one large central return is all that is required (with a few exceptions, such as a room over a garage, or a room that is shut off from the rest of the home).

My own experience has been that one is quite adequate. Most new houses today have a central hallway and this is the ideal spot for the return, either high wall or ceiling, with the trunk extending down through a closet or dead space into the cellar.

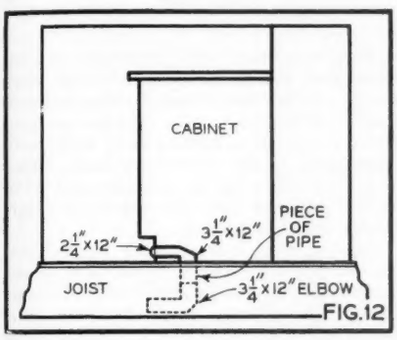


FIG.12

Keep in mind when sizing the return to have a grille face approximately 20% larger than the return duct. A grille of the same size as that of the duct may cause excessive noise. Always rough in the return air at the same time you rough in the supplies. Fig. 13 shows a roughed-in return air opening.

Some heating men prefer to use a number of smaller returns instead of one large one. This may be done quite easily by the use of standard sidewall boxes, such as 12" x 6" or 14" x 6". Try to keep these returns toward the center of the house, unless there is a room that is far from the unit or one that is semi-isolated from the rest of the house and may be shut off quite frequently.

Another common type of perimeter warm air system is the slab type of installation. This type of system is used with a reverse flow unit and loop system of tile or other similar material as in Fig. 14.

On this type installation, you must work along with the builder, as the tile and floor register opening must be in place before the slab can be poured. A plenum chamber, well insu-

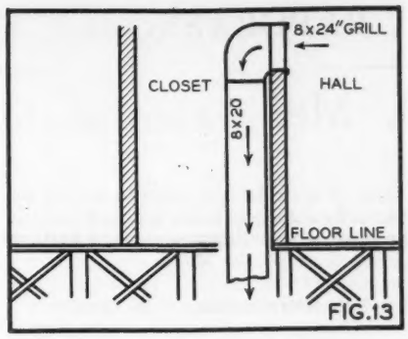


FIG.13

lated, is sunk below floor level. The loop, as in Fig. 14, is run around the building, being sure that register locations are cut in as you go along.

They should be 7" out from the finish wall, and must have at least 2" of concrete over the tile. Caps are placed over the openings to keep debris out of the tile. Be sure to place edge insulation completely around the edge of the slab as in Fig. 15.

Return air in this type of installation is very simple. Just run a trunk off the reverse flow unit from the utility room into a high wall location (see Fig. 16).

In summing up, a few important facts should be stressed. First and most important: Discharge from warm air supply registers should be so directed as to avoid direct contact with people sitting nearby.

Second: Outlets (in a room where more than one is required) should be spaced evenly to distribute the air uniformly throughout the room.

And last but not least: It is excellent practice to go over the locations with both the contractor and homeowner before any work is done. By taking a few moments at this stage, you can save needless expense and embarrassment later on.

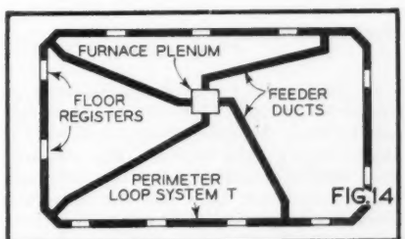


FIG.14

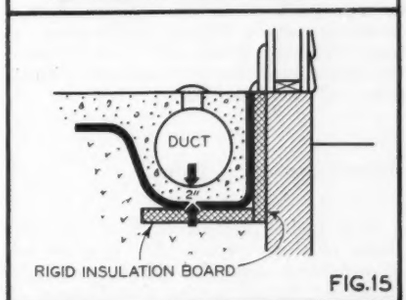


FIG.15

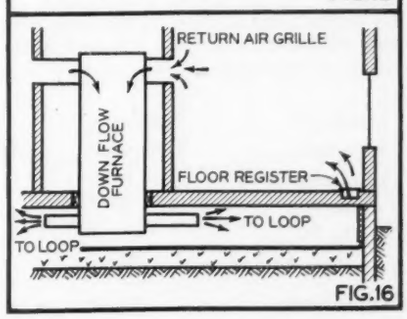


FIG.16

❖

OHI signs Lease for Show in New York, June 11-15

GEORGE E. HOCKSTEIN, president, Oil-Heat Institute of America, Inc., announced that the lease with the new Coliseum in New York City has been signed for the 21st Oil Heat show, June 11-15.

More than 70,000 sq. ft. of floor space will be provided for the exposition. This is the first oil heating show to be held in New York in more than 25 years.

The 34th annual OHI convention will run concurrently with the exposition. However, all meetings will be scheduled in the mornings so as not to conflict with show hours.

The exposition will be open from 1 p.m. to 10 p.m. Monday, June 11 through Thursday, June 14. The final day of the show will open at 1 p.m. but close earlier—6 p.m.

Hochstein stated that both the show and the convention are for the benefit of all branches of the oil heating industry: manufacturers, wholesalers, dealers in equipment, fueloil suppliers and fueloil dealers.

"We expect to have between 450 and 500 exhibitors and an attendance of upwards of 15,000 industry people including many architects, builders and engineers interested in modern heating for homes and commercial-industrial projects," he said.

R. S. Bohn, Preferred Utilities and chairman of the show committee, has revealed the 1956 exposition will not be opened to the public. Floor plans and applications for reserving exhibit space are to be mailed soon.

OILHEATING MARKET REPORTS*

Portland, Me.

IN ADDITION to the Portland Standard Metropolitan Area, the oilheating market area considered in this study includes 11 other communities within a radius of 20 miles of Portland. The population of this area, the most important oilheating market in the state, was 141,900 in 1950 and by January 1955 had increased to 152,800. It is estimated that the next five years will see a further increase of 8% to 10%.

Going back to domestic fueloil ration figures in 1945, it is seen that a total of 6,005 ratios were issued for Cumberland County's residential installations. Of this, it is estimated that 5,036 were located within the 20-mile radius around Portland.

It is estimated, further, that the total number of one- and two-family dwellings in this specific area numbered 44,807 in 1950, representing 92½% of all dwelling units. By the beginning of 1955 these increased to about 48,248 and, of these, 28,820 had central heating plants. The following tabulation shows the estimated number of installations served by the various fuels in 1950, compared with an estimate made by the fueloil industry as of January 1955. The figures represent central heating systems in one- and two-family residences.

	1950	*1955*
Coal	13,209	8,800
Gas	1,028	1,700
Oil	12,843	30,400
Other	1,740	..

Practically all of the 30,400 oilburner installations are in residences, with no more than 600 of them in the small commercial and apartment category.

During the five-year period, coal lost about one-third of its installations; gas increased by 65%, but still represents only a modest portion of the total. Oilheating on the other hand increased its number of users by 137%, an average of better than 3,500 for each year. Today the distillate burners operating in this market represent one-third of the state's total.

Competitive Fuels and Costs

Anthracite coal, of 13,200 Btu content per pound, for handfiring, costs $25.50 per ton, which comes to an equivalent of 9.7¢ per therm. This is 3% below the cost of No. 2 fueloil on a Btu basis.

There is no natural gas, as yet, in the area. Manufactured gas, of 577 Btu per cu. ft., is supplied by the Portland Gas Light Co. Gas for heating is available to customers in Portland, South Portland and Westbrook only. Taking the lowest rate-bracket in a separate gas heating rate offered by the utility company, gas costs 8½¢ per Standard Gas Unit (100 cu. ft. of 525 Btu gas), or 16.2¢ per therm. This is 62% higher than the cost for oil on a Btu basis.

No. 2 fueloil, at the anticipated winter rate of 14¢ per gallon costs 10¢ per therm. Thus oil is by far the lower in cost of the two fully-automatic fuels, and pretty nearly on a par with anthracite for home heating.

Fueloil Distribution

In Portland and surrounding 20-mile area, total retail gallonage of No. 2 fueloil is estimated at 53,060,000 gals., a little over 1¼ million bbls. The major companies bring in about 88% of the total into the market and terminal operators, 12%. Actually Pocahontas Fuel Co. is the only terminal operator, so this balance amounts to a guess as to their share of the heating oil handled. In retail sales they probably do about 2% of the consumer business direct, the integrated companies handle 12%, with the remaining 86% of deliveries made by the independent marketers.

These independents maintain practically no bulk storage facilities so that some 93% of the companies purchase 86% of their gallonage "under the fill." Automatic delivery is made to 81% of the customers and 77% of them have their tanks equipped with VENTALARM signals. And, a consensus of the oil men estimates that 15% of the customers use budget payment plans.

Only 7% of the independent marketers here handle gasoline in addition to fueloil; only 10% are in the coal business, while 72% of them sell oilburners. Actually, fueloil companies sell 77% of all oilheating installations made in the market, plumbing and heating companies sell 14% and the specialized burner companies, 9%.

Market Concentration

In the Portland area there are no large companies, comparable to some in the major eastern cities. Volume of retail gallonage is about evenly split between the medium-sized operators and the one- or two-truck companies. Better than half the volume is divided among nine firms, operating three to nine trucks each; the balance of 48% is spread widely among smaller firms. A total of 37 companies and 82 trucks serve the entire area. The table contains a breakdown of truck distribution.

Burner service Activity

The fueloil companies here are well aware of their responsibility in their role of providing over-all heating comfort by furnishing burner service. Four-fifths of all the service work is done by the companies who sell fueloil and only, 7% and 13%, respectively, is handled by plumbing and heating firms and specialized burner service companies. Activity in service work is increasing on the part of the fueloil marketers.

About 34% of the oilheating users subscribe to some form of oilburner service contract and with the additional 33% who have an annual burner check, aside from those covered by contract, there are better than two-thirds of all burners subjected to a going-over once a year.

Only a few firms offer a service contract which includes parts replacement and these average $25. The more common contract, which does not provide for parts replacement, runs around $15; median charge for the annual clean-ups, outside the contract, is $9. Non-contract service calls are billed at a minimum charge of $3.42 when made by fueloil companies and at $4.08 when performed by non-oil companies.

Advertising Promotion

Both the integrated companies and independent marketers have been spending money of their own toward oilheating promotion. Efforts by major supplies are generally conceded as having been light, with about 35% of the advertising theme aimed at selling oilheating as a facility and 65% of the emphasis upon the merits of a particular brand of fueloil.

Among the independents promotional activity has been heavier, with 54% of the companies engaged in some form of advertising. The average spent by these marketers averages out at about 71¢ per active account. Figured as a percentage of gross sales, amounts spent are judged at about 2%.

Natural gas is not expected in this area within the next year or so, with the result that the oilheating industry here is not so apprehensive about this competition as in other marketing regions. On the other hand, the fueloil marketers are cognizant of the need for a continuous strong appeal to the prospective oilheating customer and the responsibility to keep its service to the consumer at a high level.

In the latter connection the fueloil industry has sponsored state-wide legislation to license oilburner installers.

The Portland Fuel Council, which led this activity, is a newly-established industry group now working on the first co-operative oilheating promotion program for the area. Edward P. Hacker, president of the body, has organized the Council as a wing of the Greater Portland Chamber of Commerce and, through this step, has secured the services of Donald McGovern as secretary, in addition to his Chamber of Commerce duties.

The first program involves an expenditure of $10,000 in newspapers, billboards, radio and TV. About a third of the independent marketers are expected to participate, representing 65% of the market. Basis for contributions will be about $12 per truck per month on equipment in No. 2, range oil and Bunker C delivery.

Trucks per Company	*Number of Companies*	*Percent of All Companies*	*Total Trucks*	*Percent of All Trucks*
10 or over	0	0%	0	0%
6 to 9	4	11	27	33
3 to 5	5	13	16	19
1 or 2	28	76	39	48
Totals	37	100%	82	100%

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OILHEATING MARKET REPORTS*

Greater Philadelphia

THE TERRITORY covered in this study is the Greater Philadelphia area, including the city and county of Philadelphia, all of Delaware County and half of Chester, Montgomery and Bucks Counties, all in Pennsylvania. The area covers 785 sq. mi., 1.75% of the state's total; its 1950 population was 2,842,000 or 26.8% of all Pennsylvania and by the end of 1954 this had increased to 2,980,400, 27.6% of the state.

The market has about 665,390 residences of the one- or two-family size, a gain of 95,000 since the 1950 Census. Actually these figures cover only centrally-heated homes.

Table 1 was developed to clear up a considerable degree of uncertainty over the trends in heating fuels. It shows a five-year gain of 98,030 installations for oil and a five-year gain of 120,200 for gas.

for a grand total of 311,402 No. 2 oil accounts. Adjusted for a normal heating season, the average fuelo.l consumption is 1,500 gals. per installation for an indicated normal demand of 467,103,000 gals., or just over 11 million bbls., as of January 1, 1955.

Independent tanker terminal companies bring in about 24% of the total product used for oilheating, with the other 76% furnished by major companies either from nearby refineries or shipped from the Gulf. The harbor area, including Marcus Hook, has a half-dozen large refinery units; it's the leading refining center on the East Coast.

At the retail or tank wagon level, the majors do 33% of the business direct to the consumer; independent fueloil distributors in one shape or another do the balance.

Delivery refinements are well developed

TABLE I

Greater Philadelphia Market

Central Heating in One- and Two-Family Homes

	CITY		SUBURBS		TOTAL	
FUEL	*1950*	*1955*	*1950*	*1955*	*1950*	*1955*
Coal	202,700	129,770	59,500	12,200	262 200	141,970
Gas	76,500	141,100	21,690	77,290	98,190	218,390
Oil	124,000	162,330	69,000	128,700	193 000	291,030
Other	10,500	10,500	6,040	3,500	16,540	14,000
Total	413,700	443,700	156,230	221,690	569,930	665,390

The gas heating estimate is about 10% below the figure quoted by the utility, because the tabulation includes only central heating equipment, such as boilers or furnaces, and does not include floor or wall furnaces and space heaters.

Fuel Costs

Hand-fired varieties of anthracite sell at $19.95 a ton for 13,000 Btu quality, corresponding to 7.7¢ a therm, or 100,000 Btu. Stoker firing sizes bring $15.75, or 6.1¢ a therm.

Two utilities supply the city and suburban portions of the market: The Philadelphia Gas Works in the city and Philadelphia Electric Co. in the suburbs. The Gas Works markets a 720 Btu mixed gas, with rates bracketed to carry high charges for cooking and water heating, with lower rates in the house heating quantities. As a rule of thumb, Atlantic Refining engineers use 89¢ per Mcf for the city utility, equal to 12.3¢ per therm. In the suburbs, where an 801 Btu mixed gas is supplied, the rates are higher.

At the winter rate of 13.6¢ a gallon, No. 2 fueloil costs the user an equivalent of 9.7¢ a therm. Thus city gas costs 27% more at current prices and anthracite coal costs 21% less.

Fueloil Distribution

The Greater Philadelphia area has approximately 291,030 oilheated one- and two-family homes, plus an estimated 20,372 users of No. 2 fueloil for centrally-heated commercial establishments and apartments.

in the area, with 81% of the customers served by automatic deliveries and 70% of customer tanks equipped with fill signals. Also, 19% of the customers pay for their oil on a monthly payment budget plan.

Market Concentration

Companies delivering heating oil in the area number 483, not including the majors. The 483 companies operate 1,334 fueloil trucks within the specified area, an average of 2.7 trucks each. Table 2 tabulates trucks per company.

In Philadelphia and suburbs 11% of the fueloil distributors also are in the gasoline business, 25% are in the coal business and 61% of them sell oilburners. In the judgment of key marketers in the area, 63% of all oilheating installations in 1954 were made by oil companies, 21% by plumbing or heating companies and 16% by specialized burner service companies. And, about three-fourths of these marketers believe burner selling activity by fueloil companies is on the increase.

Burner service Activity

Oil companies also are prominent in burner service, handling 67% of the total market's needs, while plumbing or heating men did 15% and special oilheating service shops did the other 18%. Nine out of ten oil men questioned about it say that this service activity by oil companies is growing.

Annual service contracts cover about 41% of oilheating customers' needs, while another 39% of the burners get a yearly clean-up and adjustment. The two figures make a surprisingly high total, 80% of the oilburners, thus, getting at least an annual cleaning and tune-up.

Service charges are typical of large markets, but a little above national averages. Contracts including parts replacement bring $28; contracts without parts average $20 and an annual clean-up and adjustment apart from contracts costs $12. An individual call for customers not on contract costs a minimum of $4.35 if the service is rendered by an oil company and an average minimum charge of $5.34 if it's made by a heating contractor.

Advertising Promotion

About two-fifths of the oil men who participated in this survey believe the major oil companies have done quite a lot of oilheating advertising in the market, about the same number say they've done a moderate job and one-fifth feel the big companies have done little. It was generally recognized, though, that this advertising bears down on the brand of oil, with a smaller emphasis on what oilheating can do for a home.

About a fourth of the independent marketers have been advertising and they put more weight into the heating side, since most also sell burners. Where this advertising is budgeted at so much per oil account, they spend an average of $2.19 or where it is based on a percentage of gross billing, they average 2.7%.

Occasionally in earlier years the marketers put together a modest fund for co-operative oilheating advertising. There had been none for several years until 1954, when the Greater Philadelphia Fuel Conference was formed to include both oil and coal companies, most of the latter also selling fuelo'l. In the seven months from June 1, 1954 until the end of the year a total of $26,190 was raised and spent in newspapers, radio newscasts, cost comparison sheets for direct mailing and personal selling, truck and window decals, bumper strips and such.

In the first half of 1955 an additional $26 312 was collected and spent. An estimated 11% of the independent distributors, doing 30% of the market's gallonage, have contributed so far and, in addition, six majors and two tanker terminal operators have participated.

The program for the full year 1955 calls for an investment of $115.000. Advertising for the present program is handled by Earle H. Dietrich, Ambler, Pa.

The gas utilities are active in advertising and the Philadelphia Gas Works has a 1955 minimum budget for this purpose of $140,000. No definite figures are available on what Philadelphia Electric will spend on its suburban gas service, but they now have a number of billboards displayed.

TABLE 2

Trucks per Company	*Number of Companies*	*Percent of All Companies*	*Total Trucks*	*Percent of All Trucks*
10 or more	14	3%	207	16%
6 to 9	30	6	198	15
3 to 5	141	29	512	38
1 or 2	299	62	419	31
Totals	484	100%	1.336	100%

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Electric Motors

Part Three—"Toy type," universal, and polyphase Motors; AC motor speeds

by
J. W. Schulz

TWO EARLIER ARTICLES in this series on motors appeared in the March and June issues of FUELOIL & OIL HEAT. This third article completes the series.

Fractional horsepower, two-wire motors of the types commonly used for domestic oilheating equipment already have been covered. These include split phase motors (used to power almost all gun-type burners), capacitor-start induction-run motors, and the more rarely used repulsion-induction motors, which are the brush-start type.

Next on the list of seven types of motors which appeared in the start of this series are shaded pole or shading coil motors, often called toy-type motors because they come mainly in extremely small sizes.

If as an oilburner expert you think you know all motors but have not yet encountered shaded pole motors and shading coil motors, charge that to the ruggedness and troublefree operation of these little motors. Many are used in the field of oilheating, but you don't often see them because they give little trouble.

These low-capacity motors are used widely to handle the exceptionally light loads of damper motors, motorized valves, and low-capacity wall pumps and warm-air circulating fans or blowers. They are even used to drive the fans or blowers of certain low-capacity domestic oilburners—not pressure-type burners in which the motors drive pumps as well as blowers, but low gph burners having no oil pumps and in which the little motors drive only fans or blower wheels.

In Diag. 5 is a usual type shaded pole motor having one line-voltage field winding and two poles. Each of the poles is slotted and encircled with bands of copper. These bands are necessary to provide the starting effect for the motor. Remove the bands experimentally, and the motor shaft won't turn when you apply current to the motor winding. The shaft just hums. Spin it either way with your fingers, and it will start and run gaily. Once started, in fact, it will run better than if the starting bands of the shaded poles were in place.

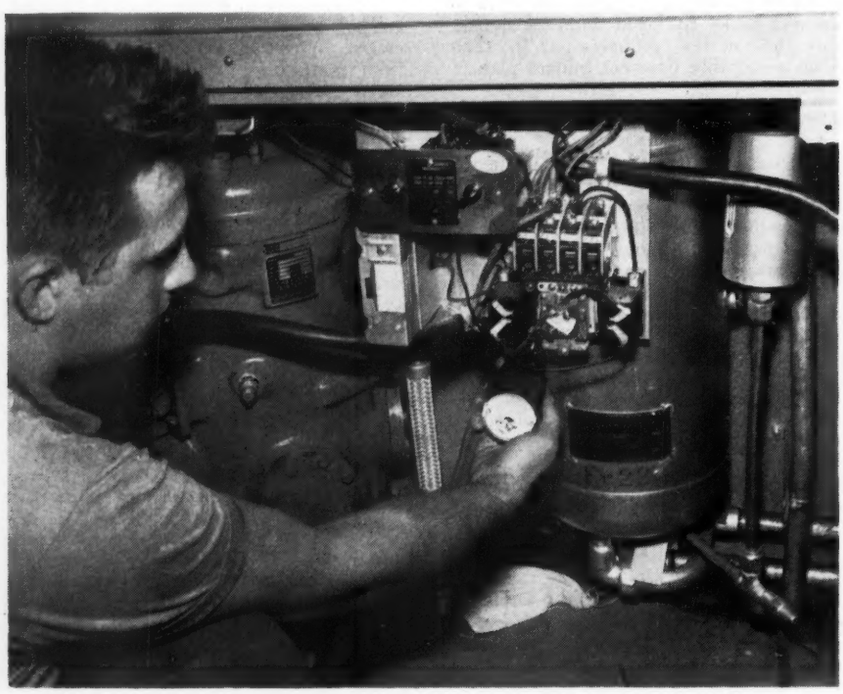
That gives a cue to one of the characteristics of the shaded pole motor: It runs at decidedly low efficiency, because the shaded pole effect needed to start it continues to have an effect on the motor after it is running; and with the motor running the shaded pole effect tends to brake or hold back its shaft and rob the motor of efficiency.

Diag. 6 shows a shading coil motor, which is related closely to the shaded pole motor. Before applying juice to the motor winding, connect together the two ends of coil "A." Then the motor shaft will turn in one direction when you apply current to the motor winding. If instead you connect together the ends of coil "B," then the motor shaft will turn in the opposite direction when you give current to the motor winding. Thus the shading coil motor in Diag. 6 is reversible.

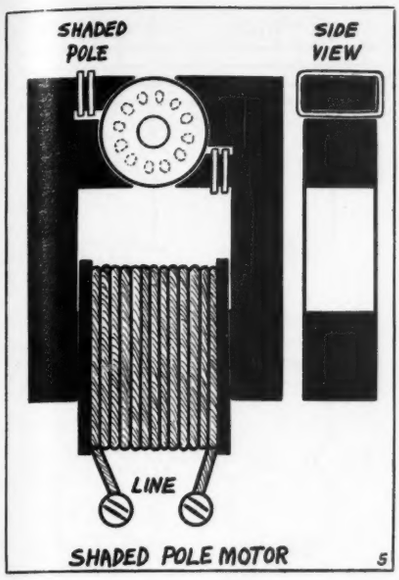
The toy type motors in Diags. 5 and 6 have feeble starting ability, in addition to extremely low running efficiency. In most of their applications, their low operating efficiency can be overlooked, because their current input is relatively low. Most use only 10 to 50 watts.

Because the toy type motors in Diags. 5 and 6 are uncommonly simple and come only in small sizes, they are extremely inexpensive. Service requirements are limited to oiling the two motor bearings occasionally. Many don't need even that, being self-lubricating, having oil-less bearings, or running grease-packed.

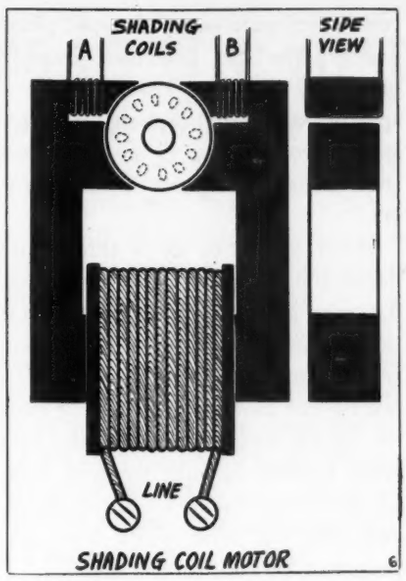
The universal motor in Diag. 7 is not used much in the field of oilheating, but interest you when your wife



Reading *amperes and volt, which is helpful servicing small motors, is absolutely indispensable for servicemen working on large motors. Here a serviceman applies a snap-on ammeter to the input wires of a three-phase 7½ hp airconditioner motor to check its current input under full load. He reads the flow of current through each of the three wires that give power to the motor. His readings tell him if the motor is underloaded or overloaded, if each of the three wires properly has the same current flow, and if the motor starter is set up to provide proper overload protection for the motor.*



Diag. 5—*"Line" for this top motor can be low-voltage or line-voltage. Obviously this is a two-pole motor, having theoretical no-load speed of 3,600 rpm on a 60-cycle current basis. However, the use of shaded poles decreases the motor's actual speed considerably, as well as decreasing its efficiency.*



Diag. 6—*First-cousin to the shaded pole motor, this shading coil motor has the advantage of being reversible. Its shaft turns either way, depending on whether you complete the circuit of coil "A" or coil "B" before you apply current to "Line." To get the motor started, you must use either shading coil. But the motor will run faster, once started, if you open the circuit of the shading coil used for starting. That reflects on the inefficiency caused by failing to use a toy motor's starting device only for starting.*

makes you, as a motor specialist, service her appliances—for her sewing machine and vacuum cleaner are powered by this type of motor.

Whereas alternating-current motors run nearly in step with the beat of the current and so have certain maximum shaft speeds (3,450 or 3,500 rpm is the maximum shaft speed for an alternating-current motor using 60-cycle current) the universal motor in Diag. 7 can provide extremely high shaft speeds. Many such motors run at 10,000 or 15,000 rpm.

The main reason, then, for using a universal motor is that it can provide high shaft speeds—speeds much higher than given by the other six types of motors covered in these articles. Another reason for using a universal motor becomes clear when you study the speed control of your wife's sewing machine; the power and speed of this type motor are reduced by wiring a resistance or rheostat in series with it. Diag. 7 suggests a series resistance as optional.

Universal motors have been used in oilburners in bygone years. The atomizing cup of a then-popular, highly interesting, atomizing vertical rotary burner was driven by a 10,000 rpm universal motor years ago; the atomizing cup of a midget horizontal rotary burner was driven by at 5,000 to 6,000 rpm universal motor years ago.

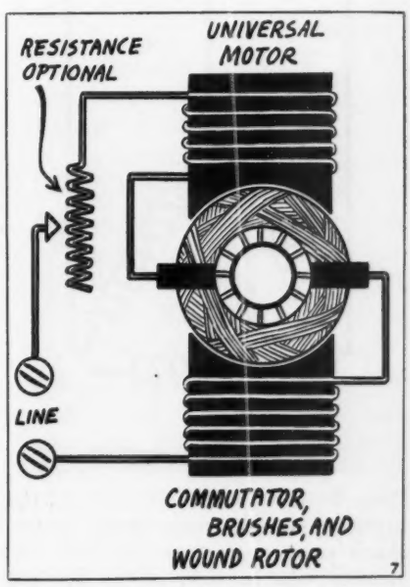
Oilburners usually are not powered by universal motors today, however. The high shaft speeds of these motors are not needed by modern burners; service difficulties related to the hard-working commutators and brushes (in use all the time the motors run), and to high-speed shafts, have made these motors unpopular; and these motors have poor speed-control characteristics in that their shafts slow down greatly under increasing load or decreasing voltage conditions. Poor condition of commutators and brushes results in low shaft speeds.

The universal motor gets its name, of course, from its ability to use either direct current or alternating current. That advantage for household appliances has no value in oilheating. In oilheating, this motor's characteristic of running like a DC motor, even when using alternating current, is in fact a distinct disadvantage. A motor that runs like an AC motor does not give the commutator and brush complications given by a DC motor.

True, one other of the seven types of motors discussed in these articles has a commutator and brushes. That's the repulsion-induction motor. But it uses its commutator and brushes only for a matter of split seconds each time it starts. Once started, it runs like a true alternating-current motor and does not use its commutator and brushes. Disliked by some motor experts and servicemen because it uses a commutator and brushes at all, the repulsion-induction motor still gives far less commutator and brush trouble than a universal motor.

The polyphase motors covered by Diags. 8, 9, and 10 are the workhorses of commercial-industrial oilburner installations and most central-plant air-conditioning installations. These polyphase motors need special three-wire or four-wire electric current, which is not commonly available in homes. But fortunately such current usually is available in factories, hotels, schools, hospitals, institutions, public buildings.

Compared to any type of two-wire

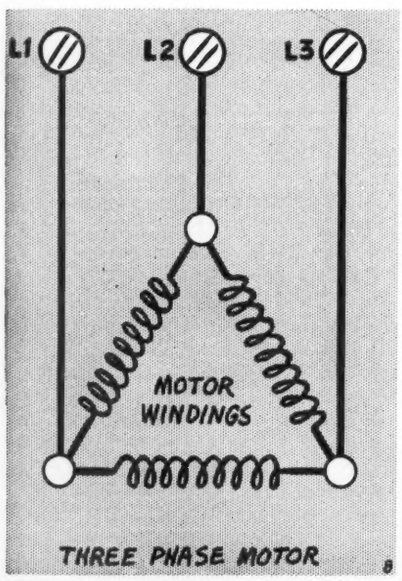


Diag. 7—*This universal motor can be considered a direct-current motor, for even in using alternating current it acts as though it were using direct current. Disadvantages of this type motor restrict its use to applications needing higher motor speeds than can be provided by motors of true alternating-current type.*

or single-phase motor, the polyphase motor is outstandingly rugged for one good reason: It has no starting devices of any kind; it has no centrifugal switch, no starting winding that draws heavy current and dims lights, no starting capacitor that may need replacement, and no commutator and brushes that need regular attention.

The polyphase motor consists of simple, rugged field windings, and the exceedingly simple and practical squirrel cage rotor (not wire wound) which was described in detail and shown by an illustration earlier in this series of articles.

Polyphase motors don't come in small sizes; usually they are ½ hp or larger. But even in the ½ hp size, they are greatly preferable to two-wire, single-phase motors. I know of several horizontal rotary cup burners which for years gave great trouble because they were powered by ½ hp split-phase motors, for example. To switch these jobs to polyphase motors at considerable expense proved worthwhile —it ended the expensive troubles given for years by the starting windings and centrifugal switches of the split phase motors. The fact that these burners had 3,450 rpm motors was a factor—split-phase motors running at lower speeds would have given much less trouble than the motors of these burners.



Diag. 8—*Simple internal wiring of the highly desirable three-phase motor, much used on burner and airconditioning jobs in sizes of ½ hp and larger. Delt wiring scheme used here corresponds to the same amperage for each wire providing current for the motor. An important service check-up includes making certain the amperage is the same for each of the three wires. Another important service check-up makes certain the motor is properly protected against overloads.*

After you wire up a three-phase motor following the pattern of Diag. 8, you've got to check for proper rotation of the motor shaft, for it is as likely to turn one way as the other. To reverse the motor if you find it runs the wrong way, you switch any two wires feeding it. Take the wire from L1 and connect it to L2, for example, and take the wire which was connected to L2 and connect it to L1.

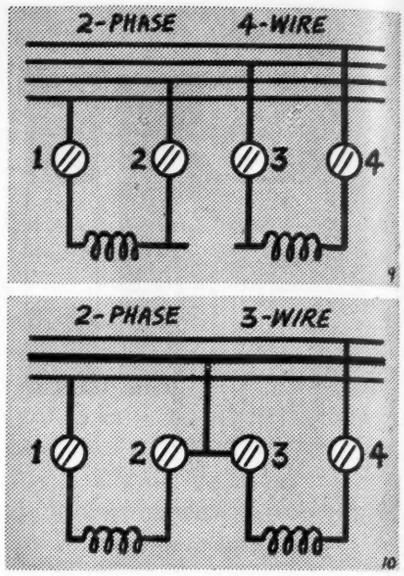
To reverse the rotation of the polyphase motors in Diags. 9 and 10, simple switch wires feeding either of the motor windings.

Motor-starting relays and overload protectors are of vast importance in the field of polyphase motors. A starter breaks every line to a motor when the motor is idle—it amounts to a single-throw switch having three or four poles to match the needs of the motor. Overload protection devices built into motor starters also are of great importance. Functioning properly, they turn off motors which are tending to overheat because excessive loads cause them to draw too much current. The motor properly protected by such devices can never suffer the damage of overheated or burned-out windings. To do motor work properly, both installation men and servicemen must have thorough knowledge of how to protect motors against overloads.

Reading amperes and volts, which is helpful working on small motors, is absolutely indispensable for servicemen working on polyphase motors.

Special types of capacitor motors, including the new permanent-split capacitor motors which is gaining popularity for driving the blowers of forced-air furnaces, were listed as the seventh type motor in the first article in this series.

These special capacitor motors are of widely different types and have greatly different characteristics, hence no generalities about them can be described. Encountering one of these motors, you should obtain complete



Diag. 9 *(Top) — Internal two motor windings of a two-phase, four-wire motor, and proper connections of the windings to four-wire line. The two lower wires of the line (line is at top of drawing) provide current of one phase for the left-hand motor winding having terminals marked 1 and 2. The two upper wires of the line provide current of a different phase for the right-hand motor winding having terminals marked 3 and 4. To reverse the motor, simply reverse the two wires to either motor winding.*

(Bottom) *Using two-phase, three-wire current of this type, one of the three "Line" wires is heavier than the other two because it handles current of two phases. Each of the other two "Line" wires handles the current of but one phase. This motor also is reversed by reversing two wires to either motor winding.*

data on its characteristics, installation, service requirements, etc. from its manufacturer.

That alternating-current motors (not universal motors) run in step with the beat of the alternating current has been indicated. The speed of an AC motor that uses 60-cycle current follows this schedule:

Number of Poles	*Theoretical Shaft Speed*	*Typical Actual Full-Load Shaft Speed*
2	3,600	3,500
4	1,800	1,750
6	1,200	1,165
8	900	875

Every AC motor is wound to have a certain number of poles—its number of poles governs its speed. Examine the field windings of a few AC motors, and

(Please turn to page 126)

Opportunities in the distillate Market

Strong oilheating Growth is vital to the Well-being of the petroleum Industry

by
B. L. Ray*

TWO HUNDRED AND FIFTY YEARS before petroleum was even discovered the English philosopher—Francis Bacon—succinctly, if unwittingly, summed up the situation currently confronting marketers of distillates in the United States.

Ray

"A wise man," wrote Bacon in his Essays, "will make more opportunities than he finds."

And so it is today with us. No longer can we depend for success on the more or less natural growth rate we have been enjoying. We must recognize and develop opportunities to strengthen the relative position of distillate fuels in the energy market. We can't, in other words, any longer continue to ride an escalator; we've got to begin climbing stairs.

Let me be specific. During the period from 1934 through 1954, the consumption of distillate products in the United States—now in excess of 1½ million barrels a day—increased at a rate, on the average, of 10.2% a year. This steady gain was due mainly to the creation of new outlets through oilburner sales and to the postwar railroad dieselization program.

Since 1950, however, this average growth rate has skidded to 7.5% a year. This decline reflects somewhat of a leveling off of railroad dieselization, but particularly the inroads being made by competitive fuels. Gas sales by utilities, for instance, have increased at an average annual rate of nearly 10 percent since 1950.

A continued healthy, profitable growth of demand for distillates is vital to all segments of the petroleum industry. Since the $2 billion heating oil category accounts for the bulk of distillate consumption and offers the greatest growth potential, it is obviously in this area of the business that we must make more opportunities than we find, that we must seek and create ways and means of increasing customer satisfaction.

This development in the marketing of heating oil places new and precise responsibilities on

. . . the supplier, and

. . . the independent marketers who distribute to the consumer approximately 80% of the heating oil the industry produces.

In this new phase—

The supplier has the responsibilities of insuring adequate supplies of the finest heating oil that constant research and technical know-how can produce, and of working closely with its resellers to aid them in developing a sound and profitable business. All too often, I might add, this second responsibility is neglected.

The independent marketer has the responsibility of aggressively promoting oil heat through the sale of oil-burning equipment and of making heating with oil completely automatic and worry-free for customers.

With this basic understanding of our mutual problems, let us consider the many opportunities which we can make for ourselves through ingenuity and diligence. To simplify them and perhaps help us organize them a little more easily in our minds, I'm going to take them up under four headings: promotion, service, research, and salesmanship.

In promotion we, as members of the supplier-marketer team, must create a preference on the part of the public for automatic oil heat, just as we did 20 years ago when coal was the major competitor. This requires aggressive advertising and sales promotional programs—constantly telling the public in a positive manner of the advantages of automatic oil heat. There are plenty of these advantages to tell about. Just to name a few—

The comfort of even, automatically controlled heat.

The cleanliness of dirt-free heating equipment.

The healthfulness of steady heat plus automatic warming of the home prior to getting up in the morning.

The security of having your own fuel supply at hand at all times.

The convenience of never having to watch fuel supply—oil is delivered automatically at the right time.

The ease of payment through spreading heating costs evenly through the season by budget plans.

The additional space available as a result of compact and clean oilheating equipment — actually adds another useful room to the home.

The peace of mind resulting from the knowledge that automatic controls safely govern every activity of the oilheating unit.

One opportunity we have to accomplish this vital task of creating demand for automatic oil heat is through the

The Division of Marketing, American Petroleum Institute, sponsored a Fueloil Session on November 14 during the Institute's 35th annual meeting in San Francisco. Reproduced in this issue are the papers delivered by B. L. Ray, Standard Oil Co., on "Opportunities in the distillate Market" and another prepared by J. A. Collins, Frontier Oil Refining Co., on "Why one-fuel Chimneys should be abolished in the public Interest."

A third paper, "Why electric Heating will become a strong Competitor of Fueloil," was prepared and delivered by A. J. Becker, Becker Marsden Co. It is a significant subject, but because of space limitations it has been decided to postpone its publication until the January issue when it can be given the prominence it merits.

Briefly, Becker's paper explores the growth in electric heating, accelerated by the trend toward summer airconditioning which has forced the electric power industry to build generating capacity to the point where in some areas it is hard put to find enough winter load.

*Vice-president in charge of marketing, Esso Standard Oil Co., New York, N. Y. This is a paper prepared for a Fueloil Session on November 14 under the auspices of the Division of Marketing during the 35th annual meeting of the American Petroleum Institute in San Francisco, Calif.

cooperative efforts of the local supplier-marketer oilheating groups, counselled and assisted by the industry coordinating group known as Oilheating Market Reports.

Oilheating Market Reports, under the able guidance of Robert Gray, of FUELOIL & OIL HEAT, has completed 33 individual market surveys since its organization in May, 1955. These surveys provide us with valuable facts that can be used as a springboard for launching new oil heat promotional programs, or enlarging programs already underway.

Another important function of Oilheating Market Reports will be the gathering of effective hard-hitting advertising and sales promotional material and dissemination of it to the local oilheating groups. The individual efforts of the local oilheating groups will be much more effective, we feel, if the strongest features of the present programs can be pulled together into one advertising theme to be used by all of industry.

Promotion Programs

This arrangement gives all of us, large or small, a real opportunity to participate in oil heat promotional programs that are vital to the future expansion of home heating with oil. And besides participating in these co-operative advertising programs, we suppliers should review our own individual advertising and sales promotional campaigns to see if we can tie them in more closely with the over-all industry objective, and to assure ourselves that we are adequately promoting automatic oil heat in the face of vigorous, well-financed competitive fuel advertising.

On the service front, quality of oilheating service has taken on a new importance in the marketing of heating oil, due to three things:

(1) the obvious desirability of a fully automatic procedure in supplying fueloil—never to be of any concern to the customer—to offset similar competitive fuel claims,

(2) the necessity of maintaining reasonable profits through economies in delivery methods rather than through higher selling prices, and,

(3) the self-evident need—with increasing competition—to keep oilheating equipment operating at peak efficiency and generally trouble-free for the customer.

Realizing the importance of good customer relations to the maintenance and future growth of the oilheating market, we in Esso Standard conducted a survey among representative consumers on the East Coast from Virginia to Massachusetts. The primary purpose of this survey was to investigate heating oil consumer reactions to current industry marketing practices and distribution procedures.

One of two significant facts revealed by the study was that consumers who preferred one competitive fuel did so because they thought it was cleaner and that they would be bothered less by the mechanics of supply and service. This, of course, gives us a prime objective—to see to it that heating oil delivery service is completely automatic and worry-free for the customer.

The second significant fact revealed in the survey was that the principal reason a heating oil customer changes from one supplier to another is because of dissatisfaction with the service rendered. Dissatisfaction of this type opens the door to competitors of automatic oil heat, and such occurrences adverse to us, multiply rapidly within a customer's circle of friends.

The results of the survey gave positive proof of the many opportunities for developing more complete customer satisfaction—customer satisfaction born of a completely automatic and worry-free oil heat service.

Of first importance among these opportunities is the maintenance of a steady supply of oil in the customer's tank without his even being aware of it. The degree-day system, printed meter delivery tickets, the full tank signal device for inside tanks, and the budget payment plan, all play an important and necessary role in any completely automatic delivery program. Degree-day delivery control has been highly perfected. As additional study discloses ways to improve still further delivery control, such improvements should be available to everyone concerned through industry publications.

The thorough training of burner service mechanics is essential to improving the quality of oil heat service. Under today's operations, the serviceman is the industry's principal customer representative. Just as steady customers are gained or lost by the man at the pump in the service station, so heating oil customers can be won over completely to oil heat by a competent and well-mannered mechanic, or embittered and lost by an ill-mannered, poorly-trained workman.

Service Schools

There are a number of good schools available today for the purpose of training servicemen, such as those, to mention only a few, in New York City, Baltimore, Maryland and Seattle, Washington. While these schools give the serviceman an excellent knowledge of burner equipment and mechanical procedures, more emphasis should be placed on good customer relations.

The Marketing Personnel Training Committee of API might well back a movement for these schools to add to the curriculum a course covering courteous customer approach, standards of clean workmanship, personal cleanliness, and respect for and care of the customer's property. In fact, the effectiveness of your entire oil heat service program will be directly proportionate to the calibre and attitude of the personnel involved.

A clean-up, paint-up program for heating oil delivery equipment should be encouraged by all of industry. Customers will have more confidence in the cleanliness of oil heat if the industry's trucks are clean, attractive and well-kept.

This matter of establishing the most effective and productive oil heat service program is a continuing problem, requiring constant research and study on the part of all of us. We may, however, work toward this goal with the knowledge gained from experience that the most effective oil heat service program we can devise will also prove to be the most profitable.

Our principal competitor for this automatic heat market, for instance, makes much of the cleanliness of its product. We know, however, that oil

is a clean-burning fuel, but we must keep in mind that this characteristic is associated with a properly adjusted burner. In this day of miraculous additives, it is conceivable that heating oils can be developed that will burn cleanly over a much wider range of adjustments, resulting, at the same time, in higher average efficiency.

The natural odor of heating oil today is well controlled, but there is no requirement for any odor in heating oil and, consequently, no limitation on research to eliminate it altogether.

Further research on oilburning equipment could result in new and improved methods of burning oil, as well as in the development of simple and more compact factory-assembled units.

The industry problem of peak-heating-season demands presents another opportunity, through research, to develop oilburning equipment that would create more summer load. One means of increasing the summer demand for oil is through the use of all-year-round water heating. This, however, has not been completely and satisfactorily solved in those cases where the customer has a warm air heating system. Another fertile field for increased summer load is the further development of air cooling, with oil as a source of power.

The finest in heating oils and equipment will have no lasting value if they are not properly applied and installed. Here is another opportunity for the oil heat industry to work together to establish and follow a code of minimum installation standards.

Salesmanship—real, down-to-earth selling with a well-trained, enthusiastic sales force—offers tremendous opportunities. In the past new heating distillate business, created by the surging demand for better living conditions, has come rather easily. As a consequence, our selling efforts and techniques, industry-wide, have probably been dulled by a false sense of security.

We must aggressively push the sale of automatic oilheating equipment. The future expansion of the oilheating industry, which will depend so heavily on the creation of new outlets through oilburner sales, should not be left in the hands of third parties who have no interest beyond the initial sale of the equipment.

We should create new training programs to meet changing conditions, so that our sales force is fully equipped to face modern, competitive activity. They should know our products and equipment thoroughly. They must know how to make intelligent surveys of customers' needs. They must be able to present a sales proposal clearly and forcibly. And, finally, they've got to know how to close the sale.

The value of personalized customer contacts in keeping existing accounts satisfied and enthusiastic boosters of automatic oil heat likewise cannot be over-emphasized. Customer contacts —whether visits by the salesman, tank wagon driver, and burner service mechanic, or by telephone with the office—must be made courteously and with a genuine interest in the welfare of the customer. Our consumer survey revealed that the majority of the customers who had been visited or telephoned by a representative of their supplier appreciated this interest.

In summary, then, maintenance of the present desirable, large-volume distillate market and assurance of its continued healthy growth are the responsibility of all of us, whether we be supplier or independent marketer.

Let us, therefore, recognize and take full advantage of the many opportunities ahead in:

OIL HEAT PROMOTION—Let us build a sound, aggressive and uniform oil heat sales promotional program, industry-wide in scope.

OILHEATING SERVICE — Let us work toward making heating with oil completely automatic, with competent, well-trained personnel.

RESEARCH—Let us fully apply our industry's research facilities and technical know-how to develop new and more efficient heating oils and oilburning equipment.

SALESMANSHIP—Let us expand our selling efforts and develop new, hard-hitting selling techniques through a well-trained, enthusiastic sales force.

Let us, as Francis Bacon suggested so long ago, be wise and make more opportunities—many more opportunities—than we would normally find to advance the welfare of this vital segment of our industry.

Paper calls for Banning of one-fuel Chimneys and Flues

FOR MANY YEARS, there has been on record codes developed by the NFPA Gases Committee to govern gas piping and appliances in buildings. They outline suggested construction and use practices regarding chimneys, vents and flues. Included in these codes are the following paragraphs with reference to various types of flues or vents. They are contained in NFPA standards—No. 54, paragraph 5-3. I quote from the code sub-paragraph 5-3-1.

Collins

"Type A flues or vents shall be employed for venting the following types of appliances, except as otherwise permitted by sub-paragraph 5-3-2.

a. All incinerators.

b. All appliances that may be converted readily to the use of solid or liquid fuels.

c. All boilers and warm air furnaces except where the authority having jurisdiction approves the use of type B gas flues or vents."

Please note this places responsibility for B flue approval on local authorities.

Sub-paragraph 5-3-2 reads as follows:

"Special flues for 1,000° flue gas. Listed prefabricated flues for low heat

Prepared by J. A. Collins, manager, Oilheating Division, Frontier Oil Refining Co., Buffalo, N. Y., and delivered by Charles R. Holloway, Liberty Fuel and Ice Co., Portland, Ore., and a member of the API-Fueloil Committee, before a session of the committee on November 14, under the auspices of the Division of Marketing during the 35th annual meeting of the American Petroleum Institute in San Francisco, Calif.

appliances may be employed in accordance with their listing for

a. Domestic incinerators.

b. Gas appliances."

Sub-paragraph 5-3-3 reads as follows:

"Type B *gas flues or vents shall be used only with approved gas appliances which produce flue gas temperatures not in excess of 550° Fahrenheit, at the outlet of the draft hood, when burning gas at the manufacturer's normal input rating and not, specified by sub-paragraph 5-3-1 to be vented to type* A *flues or vents. Type* B *gas flues or vents shall be installed with clearances to combustion construction in accordance with their listing — See paragraph 5-4, sub-paragraph 5-4-7, which reads:*

Connector Clearance

"Clearance of flue or vent connectors shall be located in such a manner that continued operation of the appliance will not raise the temperature of surrounding combustible construction more than 90° Fahrenheit above normal room temperatures when measured with mercury thermometers or conventional bead type thermocouples. Minimum clearance from combustible construction to flue or vent connectors for listed appliances are shown in Table 9. Type BW *gas vents may be used for venting only approved vented recessed heaters. Such vents shall be installed in accordance with their listing. For the purpose of this provision listed appliances with the exception of incinerators and conversion burners may be accepted as producing gas temperatures not in excess of 550° Fahrenheit at the outlet of the draft hood."*

I would like to point out that a 1" clearance is acceptable for B flues on boilers, warm air furnaces, water heaters and room heaters that are listed and requires only a 3" clearance for a floor furnace.

The code is generally accepted by the states and cities throughout the nation, as a base from which to draw information for the purpose of writing ordinances governing the building and use of prefabricated flues and vents.

However, after investigating and comparatively analyzing the test procedures pertaining to the type A flue and the type B flue, considering possible malpractices pertaining to installation of gas appliances in the field, as well as from first hand information, your committee has reached the conclusion, that the use of B type flues creates a public hazard.

Let's compare the test requirements of the type A prefabricated flue with the test requirements of the type B flue.

Subject #103 of Underwriters Laboratories states:

"The type A flue test requires that the temperature of adjacent combustible construction shall not be raised more than 90° at a 1,000° flue gas temperature and, not more than 140°, while a flue gas temperature of 1,400° is maintained for one hour. In addition to this test adjacent combustible construction shall not be raised more than 175°, while a temperature of 1,700° is maintained for 10 minutes." This last test is to simulate a soot burn out.

On the other hand, the type B flue *(approved for gas only)* according to Underwriters Laboratories subject No. 441, calls for maximum test requirement of only 550° Fahrenheit to meet all conditions, and has no safety factors in it, to protect against poorly adjusted burners, that can create high stack temperatures and, form soot that can burn at just as high temperatures as soot by other fuels.

Now let's refer to paragraph 5-3, sub-paragraph 5-3-3. I quote the last paragraph, "For the purpose of this provision listed appliances, with the exception of incinerators and conversion burners may be accepted as producing flue gas temperatures not in excess of 550° Fahrenheit at the outlet of the draft hood.

It would seem that the NFPA Gases Committee and the Underwriters Laboratories are of the opinion that so long as a gas appliance is approved and listed, it cannot be improperly adjusted, overfired or be made subject to other malpractices in the field, which could create flue gas temperatures far beyond the 550° B flue maximum temperature requirement. We do not concur in their thinking.

We have in the limited time at our disposal, taken many tests on gas-fired equipment in use in the field, and found temperatures, in several instances, well beyond 550° at the outlet of the appliance. To refer to one small approved gas boiler installation in particular, temperature of 680° were registered and, the B flue in use showed definite signs of disintegration.

We also took readings on several properly adjusted oil units which showed flue gas temperature readings of 350° to 435°. These readings being taken beyond the draft adjustor, which is the same location specified for flue gas readings in NFPA Pamphlet No. 54, titled "Standards Pertaining to Gas Appliances." I quote, "The type B gas flues or vents shall be used only with approved gas appliances which produce flue gas temperatures not in excess of 550° Fahrenheit at the outlet of the draft hood, when burning gas at the manufacturer's normal input rating, etc."

Flue Gas Readings

Flue gas readings taken on these same jobs at a location before the draft adjustor showed temperature of 450° to 525°.

We give you this comparison to emphasize that the assumption, approved gas equipment will always remain properly adjusted, is erroneous.

The information is brought to your attention, not with the thought of suggesting a down grading of flue requirements for oilburners, but to emphasize the discrepancies in the test requirements of the type B flues, which indicate an urgent need of upgrading the gas flue requirements to the level of solid and liquid fuel requirements.

The Committee Chairman and Mr. Ralph Becker, a member of our committee, attended a New York State Building Code Commission hearing, and submitted data to the Commission regarding our reasons for being opposed to sanctioning the use of B flues in the New York State Building Code. We made it clear that we were not interested in downgrading the flue requirements of fuels other than gas, but rather were interested in an overall upgrading. The Commission informed your representatives, that information had been given them from other sources to the effect that the fire losses due to B flues were negligible.

(Please turn to page 122)

Selecting rotary Pumps

The six basic Types and their Application to fueloil Handling

by

W. J. Mongon*

THE ROTARY PUMP combines the rotary motion of the centrifugal with the positive pressure characteristics of the reciprocating pump. Like the reciprocating pump it is a positive displacement device that delivers a given quantity of fluid with each revolution. It is self-priming and gives practically constant delivered capacity regardless of pressure.

Its range of speeds is much higher than is usual for reciprocating pumps, which permits a direct-connected motor drive in most cases. Its greatest use is in handling viscous fluids, but it will pump practically any fluid that will flow.

A rotary pump consists of a fixed casing containing gears, cams, screws, plungers or similar elements actuated by rotation of the drive shaft.

The pumping action of all rotary pumps is essentially the same. As the pumping elements are rotated they open on the inlet side, creating a void. The fluid forced by atmospheric pressure flows in to fill this space. The continued turning of the rotors encloses the fluid between the rotating parts themselves or between these parts and the pump casing. The rotating parts at this point are under inlet pressure and continue so until the enclosed portions open into the outlet chamber.

Since the pump is a positive displacement device, it is apparent that with every revolution of the shaft a definite quantity of fluid passes through. If no clearance existed this quantity, called "theoretical capacity," would be dependent only on the speed and the physical dimensions of the pumping elements.

Clearances, however, do exist, with the results that whenever a pressure differential occurs, there will always be internal leakage from the outlet side to the inlet side. This leakage, commonly known as "slip," may be relatively large or small depending on the type of pump, the amount of clearance, the viscosity of the fluid handled, and the differential between outlet and inlet pressures. For any given set of conditions it is not usually affected by speed. The delivered or net capacity, therefore, is the theoretical capacity less the slippage.

The theoretical capacity of any pump can readily be calculated providing all the essential dimensions are known. Slip can likewise be calculated but is usually based on empirical values developed as a result of tests. This data is a part of the stock in trade of every pump manufacturer, and capacities can be accurately predicted for any given set of conditions.

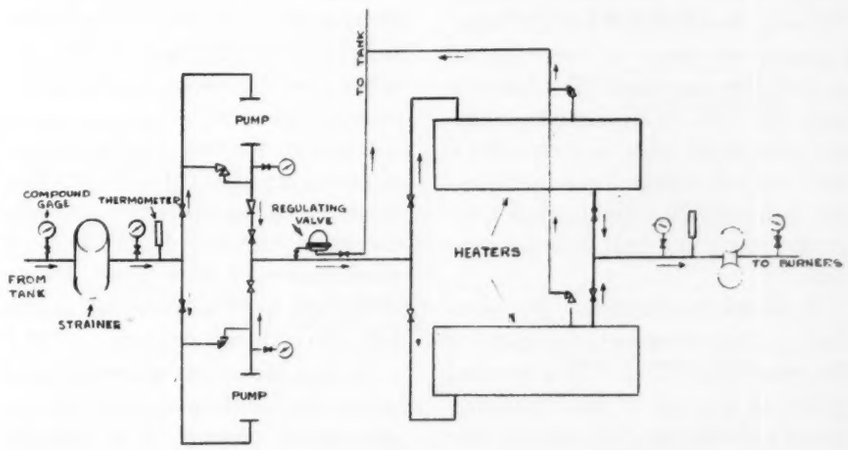
Selecting a rotary pump for a specific application is not difficult if all the operating conditions are known. It is a common belief that because a rotary pump is a positive displacement device operating conditions, particularly inlet conditions and viscosity, are not important factors.

In any rotary pump application suction lift, viscosity, and speed are inseparable. In order to insure quiet efficient operation it is necessary to completely fill the compartments in the pumping elements with fluid as they open. This becomes more difficult as viscosity or suction lift increases.

Basically once the fluid reaches the pumping elements discharging it poses no serious problem. The real problems are on the suction side of the pump—getting the fluid in. Speed of operation, therefore, is dependent on viscosity and suction lift. If these two factors are known, the problem of selecting a suitable pump becomes infinitely simpler and an efficient installation can be insured.

It is not very often that a rotary pump is called upon to handle fluids of constant viscosity. Normally, temperature variations produce a range of viscosity. It is not unusual that a pump is required to handle a viscosity range of 150 to 20,000 SSU, the higher viscosity usually being due to cold starting conditions. This is a perfectly satisfactory range for a rotary pump.

If information can be obtained concerning such factors as the amount of time the pump is required to operate at the higher viscosity, whether the motor can be over-loaded temporarily;



The illustration *shows a duplex system as applied to an industrial oilburner installation. Each important piece of equipment is duplicated, with a built-in stand-by system to insure continuous service in spite of equipment failure or other emergency. An adjustable diaphragm valve provides automatic pressure regulation. Pumps in this system can handle pressures up to 350 lbs. psig at 120-130°F. One of the pumps is motor-driven; the other is steam-turbine driven. Preference for this system or one in which both pumps are either motor drive or turbine drive depends upon plant conditions. However, a steam-driven prime mover for one of the pumps provides insurance against power failures.*

*De Laval Steam Turbine Co., Trenton, N. J.

a multispeed motor used; or the discharge pressure reduced during this period, a better selection can be made.

Quite often no viscosity is given but only the type of fluid. In such cases assumptions can sometimes be made if sufficient information is available concerning the fluid. For instance, Bunker C or No. 6 fueloil is known to have in a case of this type is to assume an operating viscosity range of 20 to 70 be handled over a considerable temperature range. The normal procedure SSF. The maximum viscosity very easily might exceed the higher value if a wide viscosity range and usually must extra heavy oil is used or exceptionally low temperatures are encountered. If either should occur the result may be improper filling of the pumping elements, noisy operation, vibration, and overloading of the motor.

Viscosity determines Capacity

Although it is the maximum viscosity and the expected suction lift that determines the size of the pump and sets the speed, the minimum viscosity determines capacity. Rotary pumps must always be selected to give the specified capacity when handling the expected minimum viscosity since this is the point at which maximum slip, hence minimum capacity occurs.

If this rule is not followed the pump will not meet the requirements of the system unless a considerable margin has been allowed initially in specifying capacity, or there is over-capacity available in the pump. The latter is often the case, since practically all rotary pumps are made in certain stock sizes and it is standard practice to apply the next larger pump when a capacity is specified that falls between sizes.

It should also be noted that minimum viscosity often sets the model of the pump selected, since it is standard policy on the part of most manufacturers to down rate their pumps, insofar as allowable pressure is concerned, when handling liquids having a viscosity of less than 100 SSU. This is done to avoid the poorer volumetric efficiency as a result of increased slip under these conditions and because a film of the liquid must be maintained between the closely fitted parts. This film is likely to break down if a combination of low viscosity and high pressure should occur.

A factor which must also be given consideration is the possibility of entrained air or gas in the fluid to be pumped. This is particularly true of installations where recirculation occurs and the fluid is exposed to air either through leaks or improperly located drain lines.

Likewise, most fluids will also dissolve air or gas retaining it in solution; the amount being dependent on the liquid itself and the pressure to which it is subjected.

When pressures below atmospheric exist at the pump inlet dissolved air or gas will come out of solution and both this and entrained air will expand in proportion to the prevailing absolute pressure. This expanded air will accordingly take up a proportionate part of the pump displacement volume with a consequent reduction in delivered capacity.

It should be pointed out, that if a pump will be called upon to handle fluids containing entrained air this fact should be included in any specifications which may be written and the percentage specified.

One of the apparent effects of handling fluids containing entrained or dissolved air or gas is noisy pump operation. When such a condition occurs it is usually dismissed as "cavitation." Noisy operation is inefficient operation and steps should be taken to make corrections until the objectionable conditions are overcome.

It is true, of course, that some types of pumps are more critical to the handling of air than others, this is usually due to the high inlet losses which are characteristic of these types. Proper design and speed selection will greatly help overcome this problem.

Suction lift occurs where the total suction head at the pump inlet is below atmospheric pressure. It is normally the result of a static lift and pipe friction. Although rotary pumps are capable of producing a high vacuum, it is not this vacuum that forces the fluid to flow. As previously explained, it is atmospheric pressure that forces the fluid into the pump. Since atmospheric pressure at sea level corresponds to 14.7 psia, or 30-in. Hg. this is the maximum amount of pressure available for moving the fluid and suction lift cannot exceed these figures. Actually it must be somewhat less, since there are always pump inlet losses which must be taken into account. It is considered the best practice to keep suction lifts as low as possible.

The majority of rotary pumps operate with suction lifts of approximately 5″ to 15″ Hg. Lifts corresponding to 24″ to 25″ Hg., however, are not uncommon.

It was previously stated that viscosity and speed are closely related and it is impossible to consider the one without the other. Although rotative speed is the ultimate outcome, the basic speed which the manufacturer must consider is the velocity of the fluid going through the pump; this is a function of pump type and design.

Gear and Vane Pumps

Certain types such as gear and vane pumps carry the fluid around the periphery of the pumping elements and as a result the velocity of the fluid through the pump can become quite high unless relatively low rotative speeds are used. In screw type pumps because the flow is axial, lower fluid speeds are obtained which permits higher rotative speeds.

In handling very light fluids, say 100 to 500 SSU, gear or vane type pumps rarely exceed a rotative speed of 1200 rpm, except in the case of very small units or special designs for a particular use as in aircraft applications. Screw pumps, where timing gears are not required, commonly operate without difficulty at speeds up to 5000 rpm and there are instances where special designs are operating at speeds of approximately 24,000 rpm taking oil under lift from a sump tank located below the pump.

Although rotative speeds are relative and dependent on the pump type, they usually should be reduced when handling fluids of high viscosity. This is due not only to the difficulty of filling the pumping elements, but also to the mechanical losses which result from the shearing action of these parts on the fluid handled. The reduction of these losses is frequently of more im-

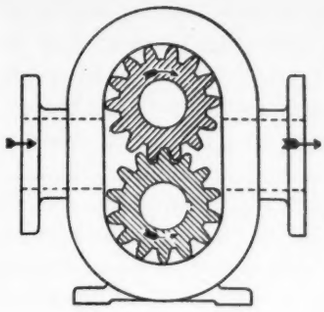


Figure 1
External Gear Pump

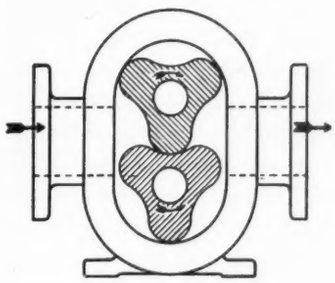


Figure 2
Three Lobe Pump

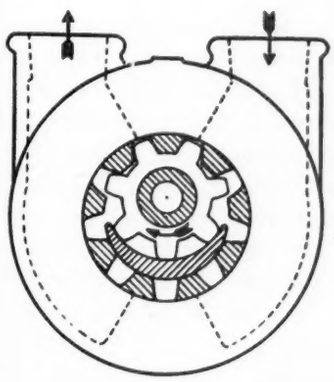


Figure 3
Internal Gear Pump

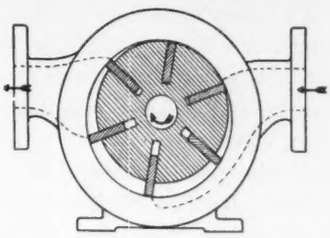


Figure 4
Sliding Vane Pump

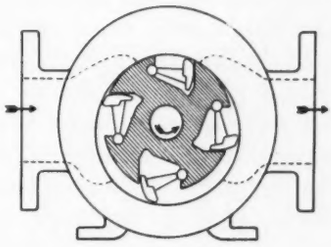


Figure 5
Swinging Vane Pump

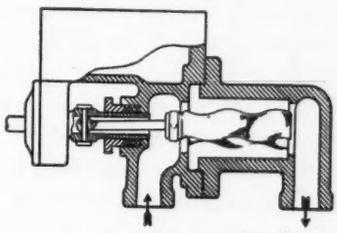


Figure 6
Single Screw Pump

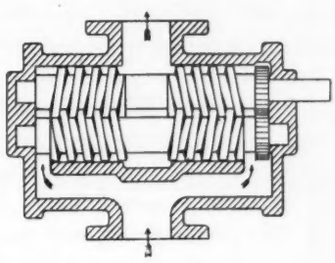


Figure 7
Two Screw Pump

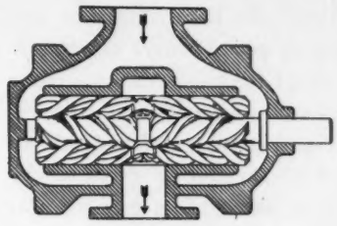


Figure 8
Three Screw Pump

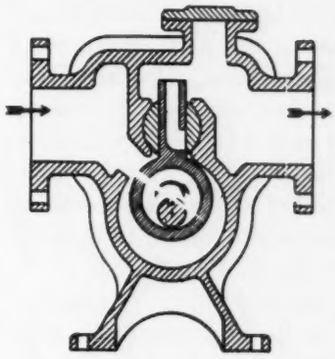


Figure 9
Cam and Piston Pump

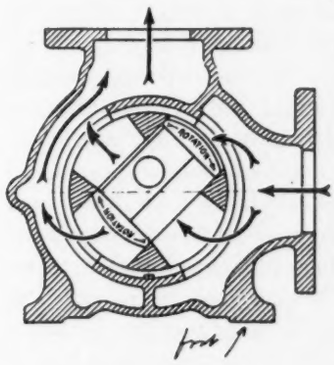


Figure 10
Shuttle Block Pump

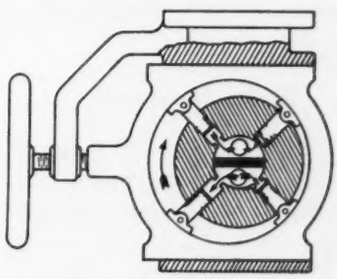


Figure 11
Radial Plunger Pump

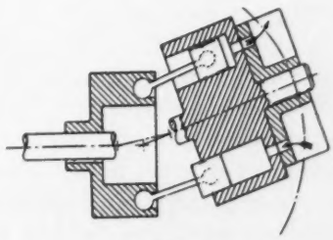


Figure 12
Axial Plunger Pump

TYPES OF ROTARY PUMPS

Screw:	May have one, two or three rotors, depending upon the design. A DeLaval-IMO three-rotor screw pump has a power rotor and two sealing or idler rotors. Majority of two-rotor pumps require timing gears, other types do not.	Illustrations Figs. 6, 7, 8, illustrate three screw-type pump.
Gear:	Consists of the external gear including spur, helical and herringbone teeth, the lobular or impeller type and the internal gear.	Figs. 1, 2, 3, illustrate several gear type pumps.
Vane:	Consists essentially of the sliding and the swinging, or bucket vane type.	Figs. 4 and 5.
Cam and Piston:	This type combines the rotary motion of a cam in combination with a piston. Usually two sets are utilized 180 degrees apart so that a fairly steady flow results.	Fig. 9.
Shuttle Block:	This type is essentially a piston type pump. It contains a slotted rotor with a pin set eccentric to it so that it will cause the pistons to move in and out as the rotor is turned.	Fig. 10.
Multiple Piston:	May be of the radial or axial piston type. In either, a series of pistons are actuated by a rotor mounted off-center in the casing.	Figs. 11, 12.

portance than relatively high speeds, even though the latter might be possible due to positive inlet conditions.

In general, the losses for a given size and type of pump vary with the viscosity and rotative speed and may or may not be affected by pressure, depending on the type of pump under consideration. These losses, however, must always be based on the maximum viscosity to be handled, since they will be highest at this point. If this is not done, the resultant calculated horsepower will be too low and a motor selected on this basis will probably be overloaded.

The other factor that determines the horsepower required to drive the pump is the actual work done in converting the fluid from its pressure condition on the inlet side to its corresponding condition on the outlet side. Since this work is done on all of the fluid (this must be so because slip does not exist until a pressure differential occurs) the volume which must be considered is not the delivered capacity but the actual displacement volume or theoretical capacity of the pump.

Any number of formulae can be devised for calculating this value, known as the "theoretical liquid horsepower," depending on the units in which capacity and head or pressure, are expressed. It should be noted that the theoretical liquid horsepower is independent of viscosity and is concerned only with the physical dimensions of the pumping elements, the rotative speed and the total pressure.

Brake Horsepower

The brake horsepower required is the sum of the theoretical liquid horsepower and the mechanical loss.

Rotary pumps are available in a wide variety of pressure ranges.

Although most rotary pumps are used for applications requiring less than 150 psi, a wide field exists for a great many up to 1000 psi. Many are also built for hydraulic service on machine tools where pressure up to 3000 psi are encountered.

Rotary pumps do not in themselves create pressure, they simply transfer a quantity of fluid from the inlet to the outlet side. The pressure developed on the outlet side is solely the result of resistance to flow in the discharge line. If a pump were to be set up and run without a discharge line, a gage placed at the pump outlet flange would register zero no matter how fast or how long it was run.

Resistance usually consists of differences of elevation, fixed resistances such as orifices, and pipe friction. Nothing much can be done about the first two since these are the basic reasons for using a pump, something however, can be done about pipe friction.

Literally millions of dollars are thrown away annually due to the use of piping that is too small for the job. To be sure, all pipe friction cannot be eliminated as long as fluids must be handled in this manner, but every effort should be made to use the largest pipe that is economically feasible. Numerous tables are available from which friction losses in any combination of piping may be calculated, among the most recent of which are those published by the Hydraulic Institute. Also available are the services of pump specialists provided by pump manufacturers.

Before any new installation is made, the cost of larger size piping which will result in lower pump pressures should be carefully balanced against the cost of a less expensive pump, smaller motor, and a saving in horsepower over the expected life of the system. The larger piping may cost a little more in the beginning but the ultimate savings in power often will offset many times the original cost.

These facts are particularly true of the handling of extremely viscous fluids and although most engineers dealing with fluids of this type are conscious of what can be done, it is surprising the number of installations encountered where considerable savings could have been made if a little more study had been made initially.

A question frequently asked is, "What is the efficiency of a rotary pump?" Efficiency is dependent on practically all of the factors already discussed such as size of pump, rotative speed, viscosity, and pressure differential. It can be calculated for any specified set of conditions but will vary with any change.

Sometimes an attempt is made to calculate the efficiency on the basis of guaranteed capacity and brake horsepower; this is satisfactory provided that both were figured on the same viscosity. Normally, however, where rotary pumps are used a viscosity range has been specified or assumed, the capacity guaranteed on the minimum viscosity and the brake horsepower on the maximum. If these figures are used in an attempt to calculate efficiency a false value will result.

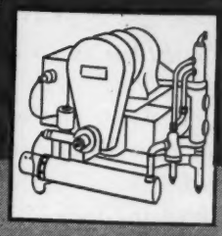
Good efficiencies can be obtained if a pump is properly selected to meet one set of conditions only. For example, medium size pumps of about 50 to 100 gpm capacity operating against 100 psi discharge pressure, normally have efficiencies of about 70 to 80%. Higher pressure pumps of about the same capacity, selected for optimum conditions, will give as high as 80 to 87%.

Handling Abrasives

There is one other point that we have not as yet touched, and that is the handling of fluids containing abrasives. Due to the fact that rotary pumps depend upon close clearances for proper pumping action the handling of abrasives will usually cause rapid wear. Some progress has been made in the use of harder and more abrasive-resistant materials for the pumping elements so that a fair job can be done in some instances. It cannot be said, however, that performance is too satisfactory when handling fluids of this character unless frequent replacements are acceptable.

Over the last 20-year period great progress has been made in the design and application of rotary pumps and further progress is being made constantly. Pumps of this type are available for the handling of fluids ranging from aviation gasoline and water to semi-plastics, such as cellulose products, chilled shortening and greases.

If complete information is given as to suction conditions, viscosity, air or gas entrainment, discharge pressure, etc., so that a proper pump selection can be made, and the proper attention is paid to installation features particularly on the suction side, there is absolutely no reason why a satisfactory installation cannot be made.



COMMERCIAL & INDUSTRIAL oilburning

SECTION

fueloil & oil heat

NEW YORK

COMMERCIAL & INDUSTRIAL oilburning

Sparky solves steam-heat Problems

With steam Heat of all Kinds, major Problem is to air-rid Radiators effectively

by
Jean L. Dupuis

THE BEST SERVICEMAN in the world, Sparky, had a lot to tell me about big steam heating plants, when last I visited him after not seeing him for about a year.

That title of "best serviceman in the world" is something Sparky always says he had to admit to. There just has to be a world's best serviceman, he explains, and it just happens to be him.

"People, not equipment, give us all our real headaches," Sparky explained to me, as he's done dozens of times before. "This time it's my boss. He's gotten me into lots of trouble."

As Sparky drove me out to this trouble job he wanted me to see, some 40 miles from his home town and service headquarters, he told me of his boss's big mistake.

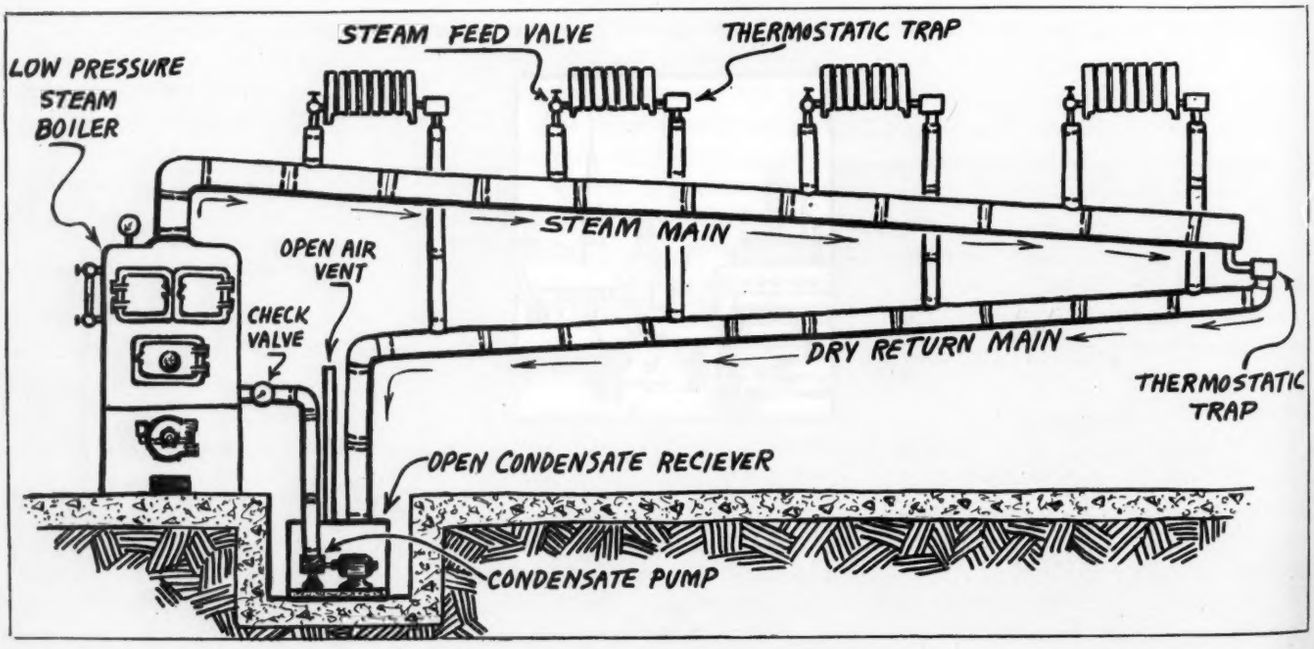
As the result of an inquiry by phone, Sparky's boss had gone to see this 200-hp low-pressure steam boiler, which was stoker-fired and used 750 tons of soft coal a year to heat a group of factory buildings. That the boiler carried its radiation load easily was readily apparent to the boss. In short order, he sold the factory owner an automatic burner to fire at 70 gph, a 10,000-gallon buried fueloil storage tank, a large-building temperature control system to pace the factory heating according to outside temperature, and all the trimmings needed to form a thoroughly good oilburner installation.

"The latest type of rapid-acting safety control panel was included, of course, for a job of this size," Sparky added with satisfaction. "Electronic controls were provided to monitor the gas pilot and the burner flame."

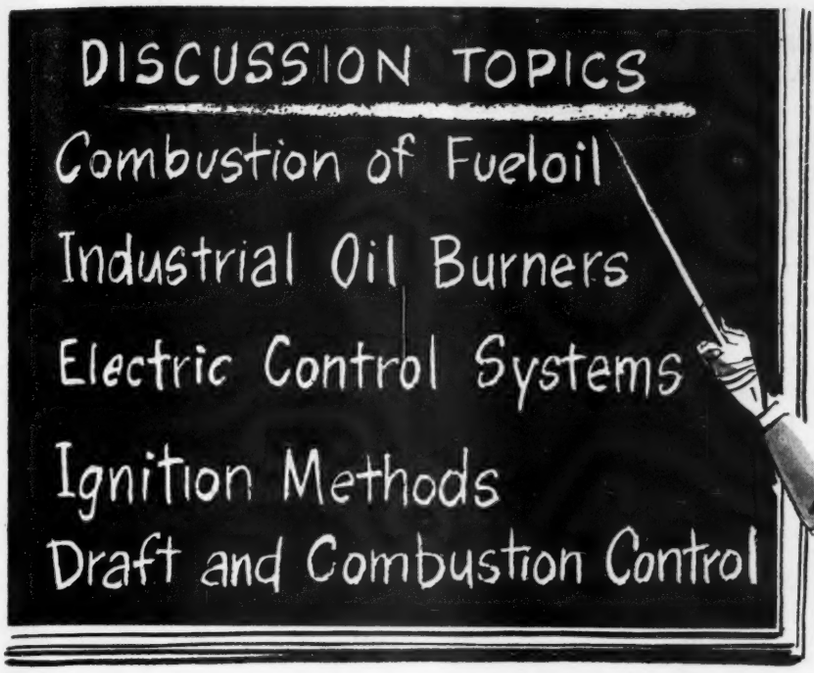
By the time we arrived at the factory, Sparky had given me a fairly complete idea of the trouble. With everything in the boiler room working properly, including the new oilburner set-up, the radiation in the factory buildings failed to heat properly.

"Listen to those radiators banging!" Sparky growled as we made our way through half a dozen large factory rooms on the way to the boiler room. "The dumbhead in charge of the boiler probably has about eight pounds steam pressure on the boiler, trying to force things. Even then and though it's not even freezing outdoors, you'll find three-quarters of the radiators cold and half the factory underheated."

Before we reached the boiler room I'd sized up the kind of heating plant that had been installed in this factory about 25 years ago. I stopped walking, made a sketch similar to the one that appears here, and showed it to Sparky.



This greatly simplified drawing *of the factory heating plant brings out the importance of the thermostatic traps at the radiators and the end of the steam main. Proper closing of the thermostatic traps (they close when heated to 170°F. or some other suitable temperature) prevents live steam from finding its way into the dry return main, even with five to eight pounds pressure on the boiler. Under these conditions of proper operation, only air comes from the "open air vent" of the open condensate receiver . . . no steam escapes from the "open air vent." Failure of traps on this job caused blasts of steam to come from the "open air vent," however. The maintenance man in charge of the boiler room piped this vent line outdoors, fitted it with a 2" hand valve to prevent escape of steam after all radiators were full of steam.*



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My sketch was simplified. It showed but one steam main, four radiators, and one dry return main — whereas this factory job had at least a dozen big steam mains and perhaps 200 or 300 radiators. But the sketch showed the principles of the two-pipe heating system that was giving the trouble.

Referring to the sketch, I told Sparky that this two-pipe steam heating plant had plenty of thermostatic traps . . . hundreds of them. At the outlet end of each radiator, and at the end of each steam main, was a thermostatic trap like the ones in my sketch.

"What are the thermostatic traps there for?" Sparky asked.

"The big idea of the thermostatic traps is to keep live steam out of the dry return mains," I answered.

"The boiler starts steaming, and steam should first flow rapidly to the end of a steam main, like the steam main in this sketch. Because to begin with it's cold, the big thermostatic trap at the end of the steam main is open. Air escapes from the end of the steam main through the thermostatic trap, permitting steam to fill the steam main rapidly.

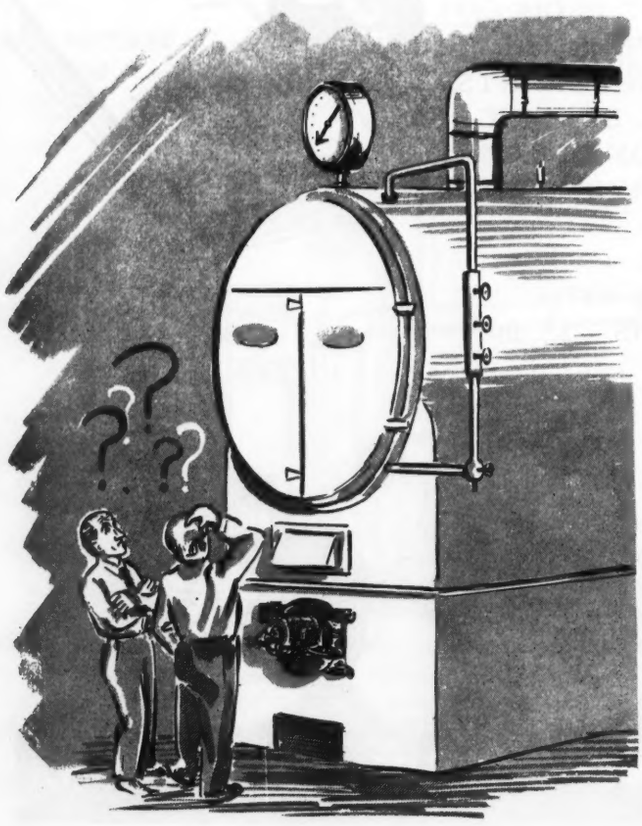
"When steam reaches the trap and raises its temperature to perhaps 170° F., the trap closes; it's thermostatic. Then no steam can flow through the trap to the dry return main shown in the drawing.

"Some minutes later, condensate from the steam main fills the body of the trap. Filled with water instead of steam, the traps starts cooling off. When its temperature drops below 170°F., it opens, spilling its load of water into the dry return line. As soon as all the water (or condensate) escapes from the trap, it fills up with steam again, its thermostatic element is heated to above 170°F. by the steam and therefore the trap closes again.

"The trap thus rids the steam main of air and condensate, but closes each time steam hits it and thus keeps steam out of the dry return main."

Each radiator has a thermostatic trap, as the drawing shows, I told Sparky. The operation of the radiator thermostatic traps is similar to the operation of the steam main thermostatic traps.

Steam starts flowing from the main into a cold radiator. The radiator's thermostatic trap is open — because it's cold, cooler than 170°F. As the steam starts entering the radiator, air escapes from it through its thermostatic trap. The air flows into the dry return line of the radiator then into the dry return main.



The radiator's thermostatic trap closes as soon as the radiator has become full of steam and the temperature of its thermostatic trap therefore reaches 170°F. The trap is then filled with steam.

"A few minutes later the trap is filled with condensate from the radiator. It starts to cool off. When its temperature drops to 170°F., the trap opens and permits water, or condensate from the radiator, to spill into the dry return," I told Sparky.

"If a radiator trap does not close when heated by steam," I went on, "it will permit steam to flow from its radiator into the dry return system. That's bad for several reasons I'll cover later."

I explained that thermostatic traps many years old have a habit of failing. Usually when they fail they stick open —though filled with steam and heated to steam temperature, they fail to close.

Much more rarely, thermostatic traps fail by way of remaining closed when they are cold and should be open. Many have charged wafers or bellows as their heat-sensitive elements; occasionally these elements disintegrate entirely, then can no longer lift the valve pins that have to be lifted to open the traps. Tight-close failure is the result. Again, occasionally dirt and pipe scale accumulate in traps, causing them to be blocked tight-shut at all times.

A trap that can't open at all, even when it's cold and should be wide open, naturally won't permit air and condensate to escape from the radiator or steam main it serves.

A thermostatic radiator trap that opens only slightly may cause a radiator to heat slowly to start out, when steam first flows to it—after it heats the radiator may become charged with condensate or water, because the trap fails to permit condensate to flow from the radiator rapidly enough.

Sparky interrupted me to ask, "Will you explain the several reasons you mentioned a minute or two ago, why it's bad for live steam to find its way into the dry return system—through defective traps that do not close when filled with live steam?"

"Jobs of this type often have open condensate receivers like the one in my sketch," I replied. "All the returns are vented to atmosphere; the air from the steam mains and radiators can escape freely from the dry returns. That's the design basis of many systems. In my sketch, I show a condensate receiver or tank into which all the condensate from the radiation flows. When this receiver becomes about two-thirds full

of condensate, a float-switch turns on a condensate pump that transfers a batch of condensate from the receiver to the boiler.

"Supposing in a large system a few hundred radiator traps fail to close when there's five-pounds steam pressure on the boiler and almost that much pressure in the radiators. Then live steam will flow from the radiators to the dry return mains — through the faulty radiator traps that fail to close when steam reaches them.

"As the first and very apparent trouble, steam will escape from the dry return system through the atmospheric vent, in this case a vent pipe of the condensate receiver, which is intended only for expelling air from the entire system while steam is filling the system. The escape of steam can be seen.

"As the second trouble, steam from the dry return lines will flow backwards into radiators not yet rid of their air. This steam will heat up traps of radiators which are still cold. Then these cold radiators will be unable to get rid of their air and condensate, through their thermostatic return traps. With air and condensate blocked in them, the radiators will heat only partly, if at all. If they heat at all, they'll hammer and bang."

As we examined the boiler room equipment accompanied by the man in charge of the boiler room, Sparky made a discovery. The two-inch line, very evidently the air-vent line of the condensate receiver, had a hand valve in it.

In answer to Sparky's whispered question, I agreed that this air-vent line should never be valved off, for here was a condensate receiver that certainly was intended to act as an "open receiver" vented to atmosphere, not as a "closed receiver."

Sparky asked the boiler room attendant, "What's that valve for, in the air-vent line? Do you know about it?"

The attendant, whose name turned out to be Joe, answered quickly, "Sure I know all about that 2" valve in the air line. I installed it quite a few years ago, when steam first started blasting out of that 2" pipe when there was steam pressure on the boiler.

"With the stoker I used to have, I had to use that valve to make the radi-

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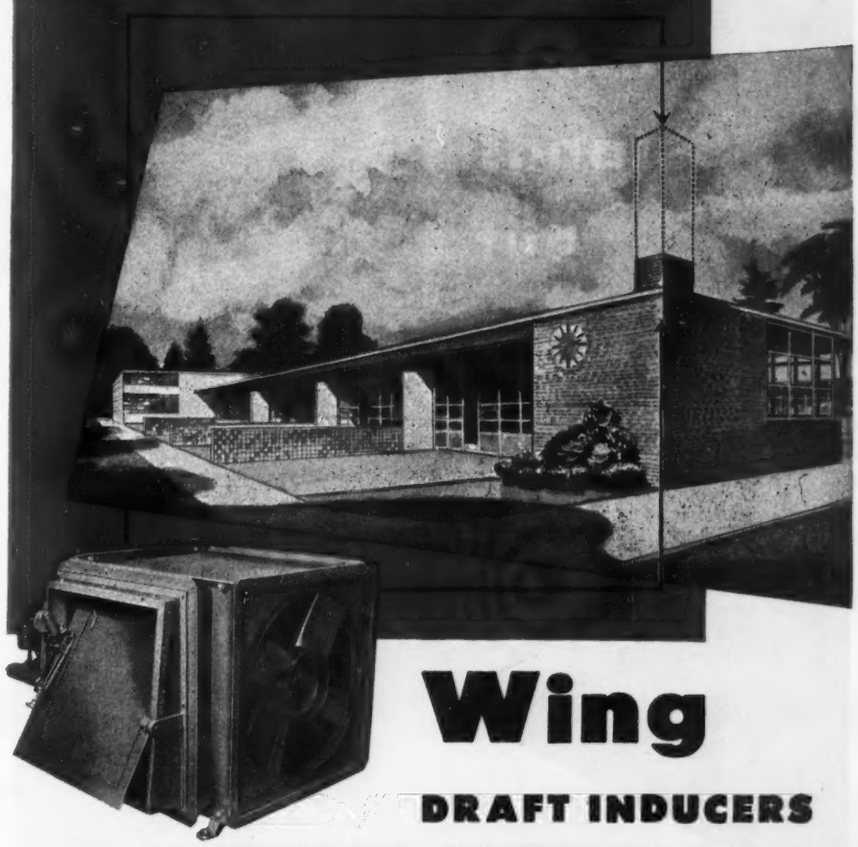

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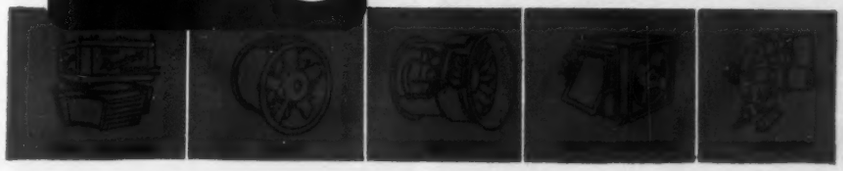

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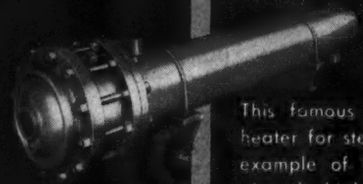

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ators heat up. The stoker was started and stopped by a hand switch; it had no controls except a steam-pressure control.

"To get heat up on a cold morning, first I would turn on the hand switch to start the stoker. When I had five-pounds steam pressure on the boiler, radiators would not heat. So I would open that 2" air-line valve to let a blast of air out of the system, to rid the steam mains and radiators of their air. In 20 minutes or so, steam would pour out of the vent line along with the air coming from the radiators. I learned by experience that to heat all the radiators I had to keep the 2" valve open for another ten minutes or so. As years went by, I had to keep the valve open more and more to heat all the radiators. So I extended the 2" air-vent line outside the boiler room, running it up through the roof. That avoided filling the boiler room with steam when I had the 2" valve open."

We learned from Joe that during the 25 years the heating plant had been in use its thermostatic traps had received no attention as far as replacement of their innards or heat-sensitive elements were concerned. Joe had removed a few dozen of the radiators' thermostatic traps and replaced them with plain elbows, he told us. He did this when he found out that totally plugged traps were causing radiators to remain cold.

Judging from our glances that he might have been following the wrong procedure, Joe said, "I'm no heating engineer, I'm just a maintenance man. A fellow does what he can to keep his heating system going, and to make sure all the radiators heat up with steam pressure on the boiler.

"I'll tell you one thing. Using the stoker, I could heat all the radiators in my buildings. Just by turning on the stoker for an hour or two every so often in cold weather, and opening that 2" valve in the air-vent line long enough for air to escape from the steam mains and radiators. I never

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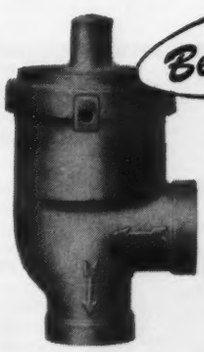

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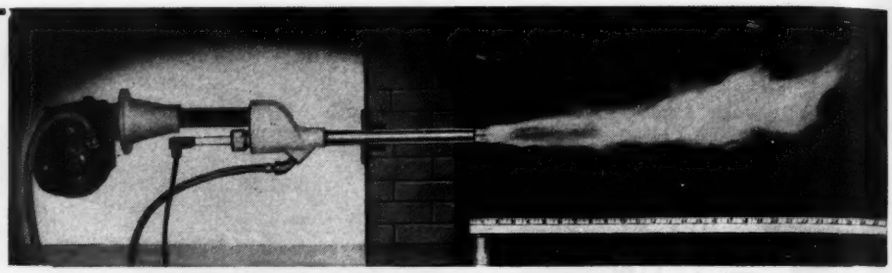

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kept the 2″ valve open long enough to waste much steam.

"But with this oilburner of yours starting up every 30 or 40 minutes and running only 8 to 12 minutes at a time, I don't know how you hope to heat these buildings.

"When things get too bad and the department heads complain to me that their men are freezing, I've had to run the oilburner just like I used to run the stoker. I put the oilburner on manual operation and keep it running long enough to give me five-pounds or more steam pressure on the boiler. Then I open up the 2″ valve in the air-vent line, and let air escape from the steam mains and radiators.

"I can tell you one thing. With that 2″ air-vent valve open or closed, your burner just wastes its time, and wastes all the fueloil it burns, when it runs 8 to 12 minutes every half hour or so. That kind of firing for this boiler does not heat the radiators!"

"What do we do now?" Sparky asked. "My boss promised the owner of this factory that installing the automatic burner would make this heating plant fully automatic—would eliminate the need for a man to tend the boiler. Yet the way things now stack up, this Joe has to nurse the heating system along all day, else the radiators do not heat up. Nights and weekends during cold weather, another man has to play nursemaid to the heating system."

Joe, who had been going around the factory buildings feeling radiators, returned and joined us to listen to what we had to say.

"To start out, Sparky," I began, "every radiator in this system has to receive steam, though maybe not heat fully, with less than one-half pound steam pressure on the boiler."

Joe the boiler room attendant looked as though he were going to have a fit when I said this.

"You're just talking nonsense to waste time," he bellowed. "I know this heating plant backwards and forwards. It's only through my efforts that these factory buildings have been heated for the past 15 years. I tell you that to get even a trace of steam to every radiator, that boiler pressure gage has got to show from five to eight pounds steam pressure!

"Maybe you guys never saw a really big steam heating plant like this before with a 200-hp boiler!" Joe exclaimed derisively. "Maybe you're just used to little house-heating systems that heat their radiators at low steam pressures!"

Disregarding Joe's outburst, I went on saying to Sparky, "As Joe has explained very well, on a mild day like today the modern large-building temperature control system starts up the burner every 30 to 40 minutes, and keeps the burner running 8 to 12 minutes each time it starts.

"After being idle half an hour and then running 8 to 12 minutes, how much steam pressure does the burner develop? When the burner stops, there won't be even half a pound steam pressure on the boiler! Yet when the burner stops, every radiator in this heating plant has to be warm, for if one radiator is still cold, we'll get a complaint that the room in which it's located is not heated properly.

"The on-off burner cycling given by the large-building temperature control

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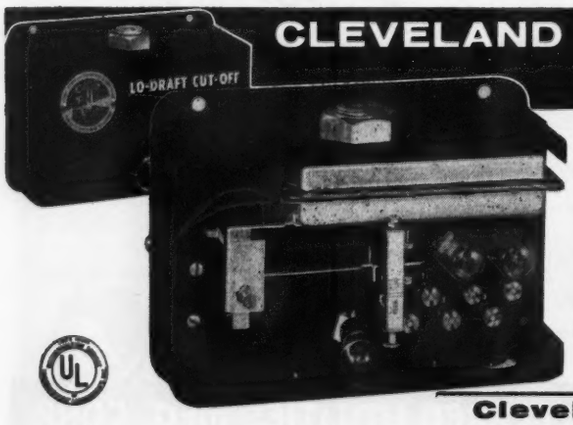

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system is correct. It's all right for the burner to run about ten minutes out of every 40 minutes on a mildly cold day. Our whole trouble lies in the heating plant not distributing steam to the radiators properly when the burner starts and stops properly."

I pointed out we had these assets on the job: (1) a boiler of ample capacity, (2) an excellent oilburner installation of ample capacity, (3) a modern large-building temperature control system affected by outside weather—not a simple room thermostat which would be unsatisfactory for this big heating plant, (4) radiators seemingly oversize for the heat losses of the different factory buildings, (5) steam mains and return mains apparently well sized for the radiation connected to them, and (6) a condensate receiver and condensate pump, both very well able to serve their intended functions.

These corrective measures should be considered, I explained to Sparky, for enabling the heating system to distribute steam properly to every radiator when the burner remains idle for about 40 minutes, then runs for about ten minutes:

1. Repair every steam-main and radiator thermostatic trap, if parts for the old traps still are available. Otherwise replace every thermostatic trap with a modern trap. Wind up with every trap properly wide open when cold, and tight closed when filled with steam.

Remove the 2" hand valve from the air-vent line of the condensate receiver. Have this vent line terminate in the boiler room, not outdoors, so that any slight escape of steam from it (caused by trap defects in future years) will be noticed at once.

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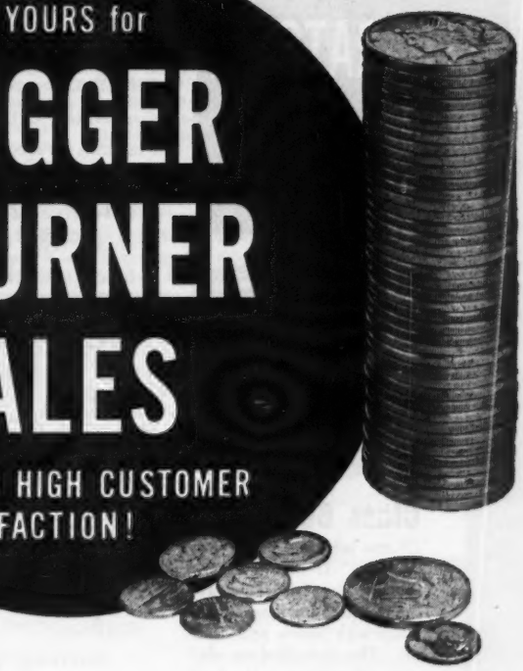

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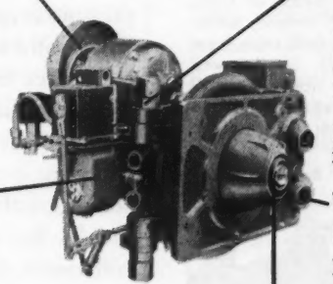

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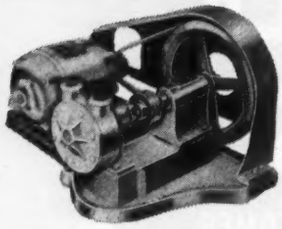

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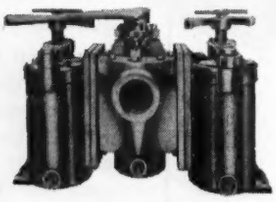

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COMMERCIAL & INDUSTRIAL oilburning

traps needed at the ends of the steam mains.

Make certain none of the radiator steam traps is plugged partly or entirely—if necessary, remove innards of defective traps. Equip each radiator steam-feed valve with an orifice disc, fitted into the union of the valve. The orifice serving a particular radiator should be of the proper size to meter into the radiator only as much steam as it can condense with, say, two or three pounds steam pressure on the boiler. So equipped with orifice discs having proper size openings, radiators cannot put live steam into the dry-return system, even though the radiators are not fitted with thermostatic traps.

Arriving at proper size orifices in the discs is not simple; you must take into account the radiator sizes and the pressure-drops along long steam mains which affect radiators far from the boiler. For best results, you may have to switch many radiators to orifice discs having different size openings, as you study the system in operation after installing all the orifice discs.

3. A fancy job, probably not to be considered here because of its great cost, would consist of taking both steps outlined above. Repair or replace all the thermostatic traps of the radiators, and in addition provide each radiator feed valve with a disc having the proper size orifice.

Doing such a fancy job gives the advantages of: (a) proper distribution of steam to each radiator, thanks to the effect of the orifices, when the boiler steams for but ten minutes at a time, (b) insurance against steam finding its way into the dry-return system, thanks to the action of the thermostatic traps serving the radiators, and (c) insurance against great amounts of steam escaping from radiators to the dry-return system, when in future years a few thermostatic traps fail to close as they should when steam reaches them; this advantage is the result of the orifice discs' limiting the amount of steam that can flow into each radiator.

As you would following the ideas of preceding items #1 and #2, following the idea of this item #3, you would turn the condensate receiver into an "open receiver"—have no hand valve in its 2" air-vent line, and have this line terminate in the boiler room where steam escaping from it can be seen. Don't have the 2" air-vent line terminate outdoors.

4. Consider this cheapest way of all for ending the trouble, but don't start applying it until you've had much help from specialists who know steam systems backwards and forwards—for unless you are both careful and lucky, trying this method for ending the trouble will wind up giving you headaches.

First make certain none of the radiator thermostatic traps is plugged partly or entirely but make certain the traps serving the steam mains work properly.

Second, turn the condensate receiver into a closed receiver—equip it with a steam-main quick-vent valve located right over it. However, don't provide extremely high capacity venting for the condensate receiver, for the plan here is to control the heating of each radiator by controlling the rate at which air escapes from each individual radiator.

Third, equip each radiator with the type of adjustable radiator vent-valve used in a one-pipe steam heating system. If the radiators have many thermostatic traps in good working order, remove the innards of these traps because following this plan they are not needed.

The fourth plan has risks you should become acquainted with through discussing the plan, and its application to a particular heating system, with a steam-heat expert. For example, use of this plan does not permit turning off a radiator simply by closing its steam-input valve; there's pressure in the dry-return system, using this plan, and turning off a radiator's steam-input valve can cause steam to flow into the radiator backwards, through its return line. This plan has worked out well for radiators having hand valves in both their steam-supply lines and return

Open View

Closed View

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4. LOW-DRAFT CUT-OFF—providing the safety of an integral minimum draft switch that shuts down firing at unsafe low draft limits. Time-delay feature prevents nuisance shut-downs due to momentary puffs.

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COMMERCIAL & INDUSTRIAL oilburning

. . . . Steam heat Problems

lines, however. Two valves then can be closed to keep a radiator cold.

As a matter of fact, Sparky used the fourth plan to adapt his trouble job to on-off oilfiring. He reported to me that the owner of the factory revealed that for years he'd known his big, old heating system needed thorough renovation and modernization. Up to the time Sparky proposed specific improvements to him, the factory owner had not put money into improving his heating system simply because he had not known precisely what the system needed to make it modern and efficient.

With any type of steam heating plant, one-pipe or two-pipe, steam can't enter radiators until air leaves them to make room for the steam. No matter how large the heating plant, every radiator in it should heat when the oilburner runs but five to ten minutes out of an hour.

❖

OHI Commercial-Industrial Committees are announced

C. H. PESTERFIELD, technical secretary, of the commercial-industrial sections, Oil-Heat Institute of America, New York, has announced the present organization of the sections.

J. Verne Resek, Cleaver-Brooks Co., is general chairman; Larry Sibley, Combustion Control Corp., is chairman of the Accessory Division; J. W. Cowan, Ace Engineering Co., is chairman of the Manufacturing Division.

Serving on the ASHAE Guide publication committee are: C. H. Pesterfield, chairman; R. Lisson, Davis Engineering Corp.; Carl Swanson, Minneapolis-Honeywell; Paul Schmidt, Allied Oil; Ray Plass, Ray Oil Burner Co.; Dr. H. R. Heiple, Shell; and J. Verne Resek.

Those on the standards and codes committee—Underwriters—are as follows: W. H. Bohn, Preferred Utilities; Paul Neess, Perfex Division; R. W. Winskill, Ray Oil Burner Co.; Stanley Pachyn, Wheelco Division, Barber-Coleman Co.; C. W. Lang, Sundstrand; Larry Sibley and J. W. Cowan.

On the engineering committee are: Richard Wright, Iron Fireman; J. W. Cowan; Ray Plass; H. J. McCoy, Cleaver-Brooks Co.; Bob Johnston, S. T. Johnson; H. E. Lake, Preferred Utilities; Ted Kaufman (chairman), Petro Division; D. L. Graves, Combustion Control; Carl Swanson; and R. A. Schoenfeld, Wheelco Division.

On the Air pollution committee: C. H. Pesterfield; Bob Johnston (chairman); Jack Kaplin, Preferred Utilities; Paul Buday, Cleaver Brooks; N. F. Hahn, Cleveland Fuel Equipment Co.; and Joseph H. Day.

Chairman of the education committee is C. H. Pesterfield and serving with him are Stewart H. Kibbe, Iron Fireman; Dana Fisher, Combustion Control; C. M. Blickensderfer, Sinclair Refining; and Frank A. Sinning, Allied Oil.

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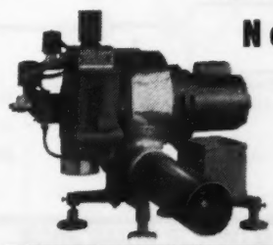

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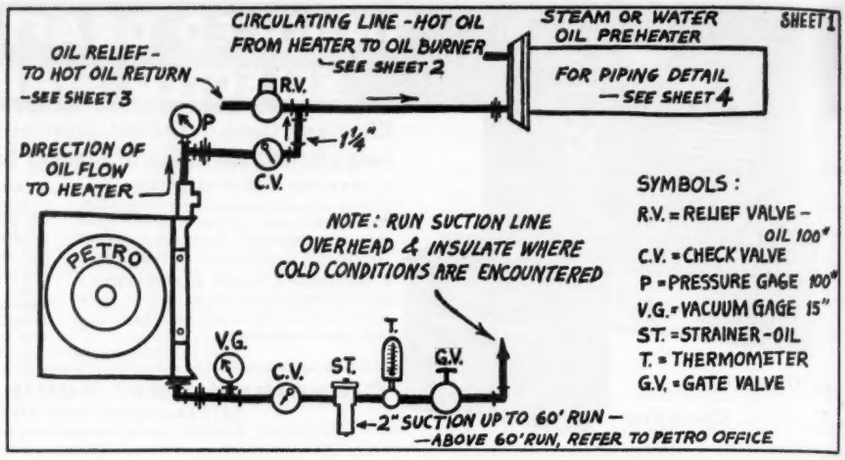
Installing fueloil Piping for Pump-type Petro Rotaries

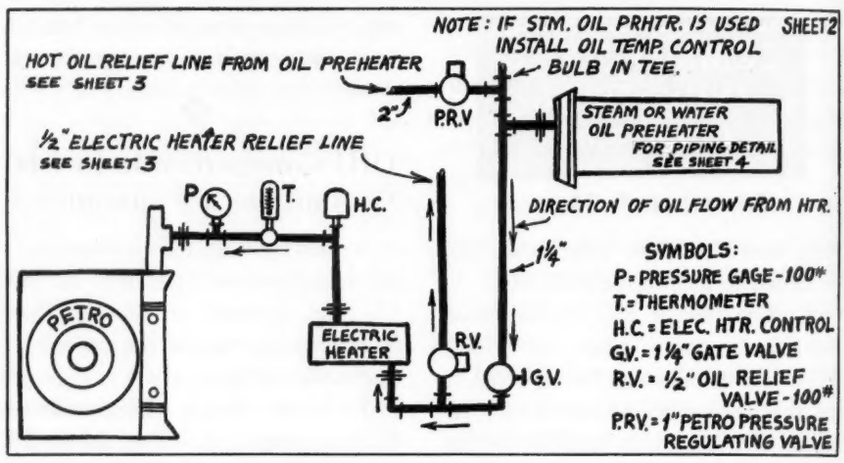
THE UNIQUE HANDLING of heated fueloil on Petro burner installations was covered in detail in a feature article which started on p. 86 of the October issue of FUELOIL & OIL HEAT.

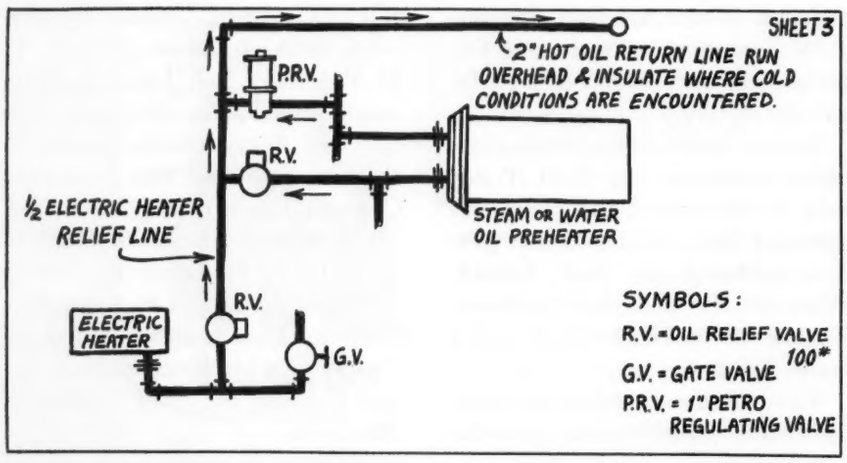
The way things actually work out, steamfitters and pipefitters not well informed about oilburners often install the fueloil piping of commercial-industrial installations.

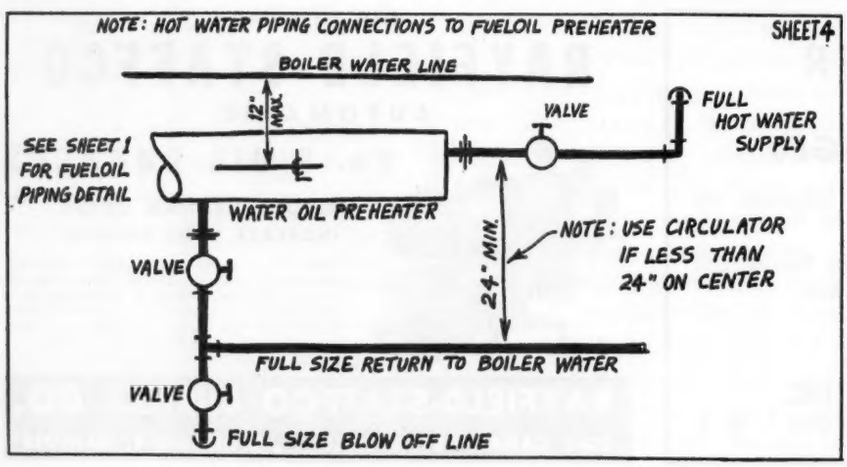
To avoid mistakes in the fueloil piping of the Petro burners distributed by his company in the New York area, H. L. Taylor, Petroleum Heat & Power, Greenpoint, Brooklyn, N. Y., made up the four accompanying sheets. Each is extremely easy to understand, for each shows but one section of the piping of the installation.

Sheet 1 shows the suction-line specialties through which the fueloil flows before entering the bottom hinge connection of the burner, then follows through and shows the piping from the top hinge connection of the burner to the indirect fueloil heater.


SHEET 1
CIRCULATING LINE - HOT OIL FROM HEATER TO OIL BURNER — SEE SHEET 2
STEAM OR WATER OIL PREHEATER
FOR PIPING DETAIL — SEE SHEET 4
OIL RELIEF - TO HOT OIL RETURN — SEE SHEET 3
R.V.
P
1¼"
C.V.
DIRECTION OF OIL FLOW TO HEATER
NOTE: RUN SUCTION LINE OVERHEAD & INSULATE WHERE COLD CONDITIONS ARE ENCOUNTERED
PETRO
V.G.
C.V.
ST.
T.
G.V.
2" SUCTION UP TO 60' RUN — ABOVE 60' RUN, REFER TO PETRO OFFICE
SYMBOLS:
R.V. = RELIEF VALVE - OIL 100#
C.V. = CHECK VALVE
P = PRESSURE GAGE 100#
V.G. = VACUUM GAGE 15"
ST. = STRAINER-OIL
T. = THERMOMETER
G.V. = GATE VALVE


SHEET 2
NOTE: IF STM. OIL PRHTR. IS USED INSTALL OIL TEMP. CONTROL BULB IN TEE.
HOT OIL RELIEF LINE FROM OIL PREHEATER SEE SHEET 3
2"
P.R.V.
STEAM OR WATER OIL PREHEATER FOR PIPING DETAIL SEE SHEET 4
½" ELECTRIC HEATER RELIEF LINE SEE SHEET 3
P
T.
H.C.
DIRECTION OF OIL FLOW FROM HTR.
1¼"
PETRO
ELECTRIC HEATER
R.V.
G.V.
SYMBOLS:
P = PRESSURE GAGE - 100#
T. = THERMOMETER
H.C. = ELEC. HTR. CONTROL
G.V. = 1¼" GATE VALVE
R.V. = ½" OIL RELIEF VALVE - 100#
P.R.V. = 1" PETRO PRESSURE REGULATING VALVE





Sheet 2 shows the output line of the indirect oil heater—fueloil flows from the indirect heater to the third hinge connection of the Petro burner. On its way, it passes through the automatic eletcric oil heater. Some of the new Petro burners are fitted with integral automatic electric fueloil heaters, thus don't need the external electric heater shown in Sheet 2.

Sheet 3 goes on to the return line piping, shows how pressure-relief valves are installed to protect the oil heaters against all eventualities of excessive pressure, and should be studied in conjunction with Sheets 1 and 2.

Sheet 4 gives the water-piping details of an under-the-waterline indirect oil heater connected to a low-pressure steam boiler. Notice the specific instructions regarding installation of a circulator, to rush boiler water through the shell of the indirect fueloil heater, on jobs where piping details are not conducive to sufficient circulation without the circulator.

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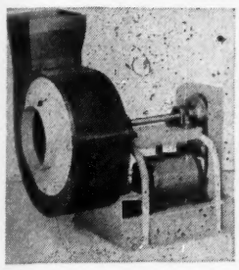

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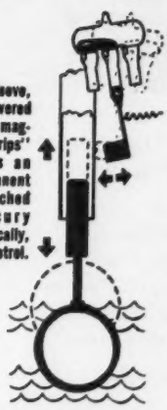
A PERMANENT Alnico magnet, located *outside* the float chamber, links boiler water level and electrical controls. This infallible magnetic link eliminates mechanical parts normally subject to wear and fatigue failure. *Pioneered and perfected by Magnetrol,* it provides almost unlimited operating life.

The brass "No-Scale" float chamber liner, another exclusive Magnetrol feature, is self-cleaning. It actually "flexes" off scale and prevents "sticking" of the float.



A magnetic sleeve, raised and lowered within a non-magnetic tube, "trips" or releases an Alnico permanent magnet attached to a mercury switch. Basically, this is Magnetrol.

These are just two of *many* advances for greater boiler safety found *only* in Magnetrol. *Standard* Magnetrol units are available for temperatures up to 750°F., at pressures up to 600 psi, for single stage (low water cut-off) or multi-level stage (pump control *plus* low water cutoff and alarm) service with as many as three separate switching actions. Special units are available for more extreme requirements.

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Sales Clinics are needed Horan tells MOHA Meeting

RAY HORAN, merchandising manager, General-Perfex Controls, suggested a challenging answer to today's sales problems at a meeting of the Massachusetts Oil Heating Association in Boston, November 8.

Reviewing figures cited earlier in the year by Paul Addams, Fitzgibbons Boiler Co., Horan pointed out that most industries are now returning to manufacturers an average profit of 16.7% before taxes. In contrast—last year the five leading boiler manufacturers realized a profit of only 5%. Burner and furnace manufacturers received similar profits.

Horan pointed to the disturbing disparity between price increases of other consumer goods compared to the heating industry: Since the war grocery prices have increased 375%; automobiles, 122%; labor costs 107%. Yet the average prices in heating equipment have risen only 15%.

Contending that "the manufacturers are now playing for peanuts," Horan said that factories cannot cut their prices more, and in fact, have already reduced them too much for the good of the dealers they sell to. Before the war, when profits among manufacturers were substantially higher, more money was spent on advertising and presentations of use to dealers.

The oilheating industry is no longer competing for the American dollar against other consumer industries, Horan deplored. "We've been playing tiddly-winks with the passionate purchaser—the man who you could scarcely drive away from your showrooms."

He maintained that most dealers are neglecting to sell the prospects and are ignoring almost completely the rich replacement market. "Our industry is treating the American public badly. Dealers are overlooking the newest products and methods that would open the door to modernization sales," he contended.

Creative Salesman

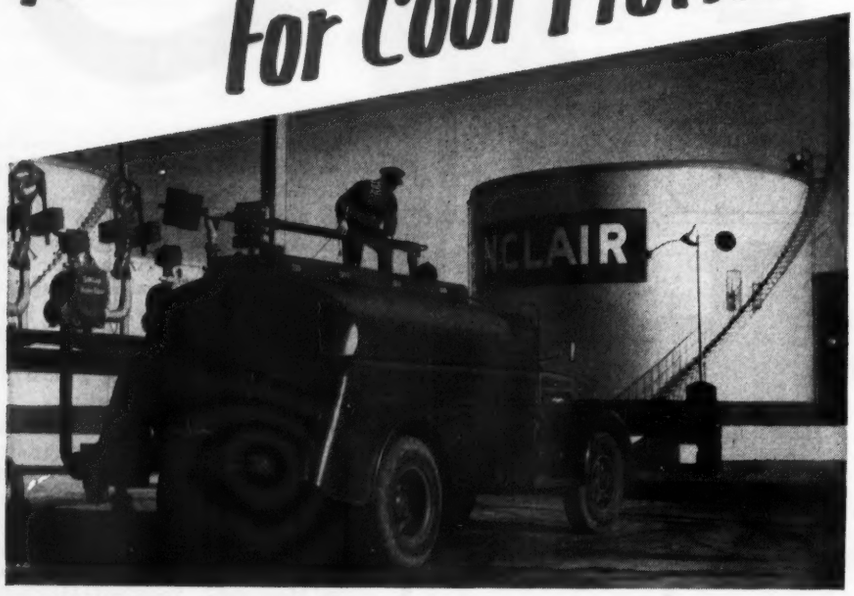
Horan defined the creative salesman as the man who disturbs his prospects' minds with happiness. "Every prospect walks down the road of life carrying a bucket filled with satisfaction, and as long as no one disturbs the bucket, the prospect is blissful. But the creative salesman kicks over the bucket, and his prospect will not be happy until he refills his bucket with what the salesman has to sell."

"In this wonderful industry, you've got a wealth of material with which to fill that bucket," Horan declared. "You've got the greatest asset in American Merchandising today—you have a business with no list price."

Selling is an art rather than a science, Horan maintained, and then said that selling could be broken down into three elements: prospecting, presenting and closing. These three elements are in reality the separate arts of visiting, story telling, and persuading—and these three are rarely found in untrained salesmen.

Horan proposed that oilheating dealers in every metropolitan area in the country, beginning in Boston, sponsor "Heating Sales Institute." These schools would teach recruits not to be

A Warm Friend For Cool Profits!



You make a *warm friend* when you switch to Sinclair SuperFlame Fuel Oil – a friend to help you win *many more* friends . . . by building customer good will.

Sinclair SuperFlame builds good will because it offers anti-rust protection at no extra cost. SuperFlame contains Sinclair's exclusive rust inhibitor, RD-119®. Used regularly, this top-quality fuel oil protects against rust-clogged filters and burner nozzles. Result:–fewer service calls and *greater customer satisfaction.*

To build good will – and *boost profits,* switch to Sinclair SuperFlame Fuel Oil *today.* Write Sinclair Refining Co., 600 5th Ave., N. Y. 20, N. Y.

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SO DIFFERENT – IT'S PATENTED

ANTI-RUST Super Flame

To the man who's thinking about buying a new truck:

maybe you're missing something...

➢ And what you're missing is more than "maybe," it's for *sure*—if you haven't yet visited your Dodge truck dealer.

➢ Do you want to miss a *rock-bottom price?* Perhaps you haven't realized that Dodge trucks actually cost *less* than you'd pay for corresponding models of most other makes.

➢ Do you want to miss *power* so high it leads the field? Consider this: with engines of 169 to 175 horsepower, Dodge overpowers *every other leading make of truck* in the low- and medium-tonnage fields.

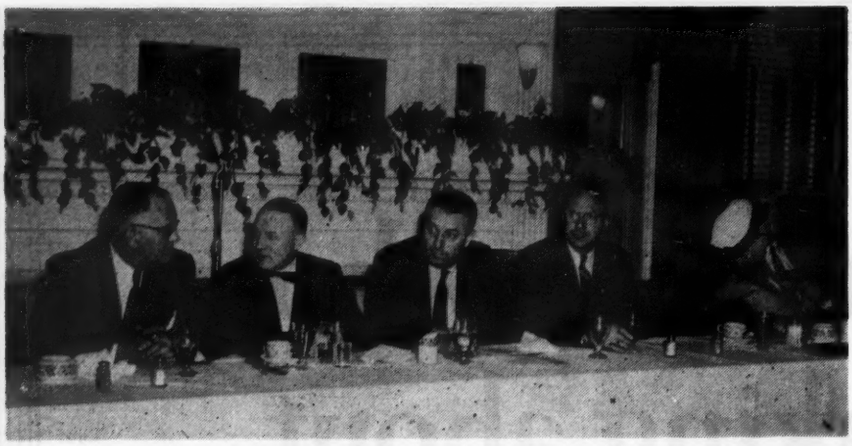
➢ Surely you don't want to miss the many advantages of *"Job-Rated."* Because all units from engine to rear axle are engineered and matched for a specific job, the Dodge truck you buy is exactly *right* for your business.

➢ You don't want to miss Dodge safety—which includes the biggest wrap-around windshield of any truck on the road, the shortest turning radius. Or Dodge superior cab comfort . . . Forward Look Styling.

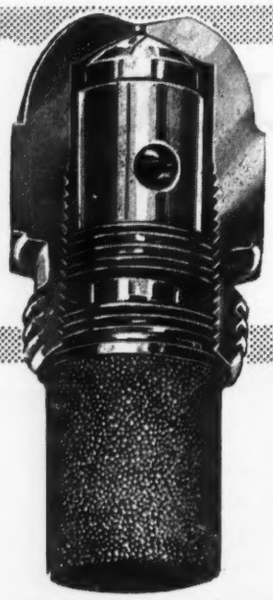
➢ In short, you get a whale of a lot more truck for a good deal less money than you think! Stop in and see your Dodge truck dealer right away—don't miss *anything!*

DODGE Job-Rated **TRUCKS**

WITH THE *FORWARD* LOOK ➢



Head table guests *at the November 8 meeting of the Massachusetts Oil Heating Association. From left to right: Ralph Dennis, Boston Machine Works; Ray Horan, General-Perfex Controls, who was principal speaker; William J. Bursaw, Jr.,* MOHA *president; C. Everett Elliott, president,* OHI *of New England; Catherine Woodbury, secretary of* MOHA*; Fred Beckwith, executive secretary,* OHI *of New England. Before the dinner-meeting, General-Perfex sponsored a cocktail party for 40 top industry leaders in and around Boston to inaugurate its saturation advertising program in that area aimed at selling homeowners on the advantages of automatically controlled heating systems on behalf of local dealers and wholesalers. Similar programs are scheduled for other key markets.*



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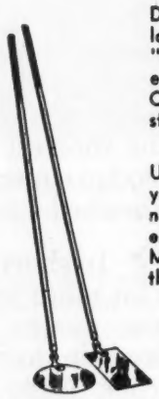

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heating engineers, but instead, heating salesmen. He suggested that the schools be private enterprises rather than being supported by associations.

A substantial number of the 120 oilheating men attending by a show of hands expressed interest in the idea. William Bursaw, MOHA president, indicated that he would appoint a committee to investigate ways and means to establish such a school.

❖

Maryland OHA offers Bonus for hot water system Sales

A CASH BONUS will be made to Maryland plumbers and heating men installing oilfired summer-winter hot water hook-ups by the Oil Heat Association of Maryland, Inc. This is the second year that the Association has encouraged the installation of oil heat by offering these bonuses.

Payments will be made on the following schedule: $5 for every installation of a 3 gpm oilfired hot water system; $7.50 for every installation of 5 gpm; and $10 for every installation of 8 gpm. Every make or model of equipment is eligible, and bonuses will be paid for both initial and replacement installations.

According to Patrick H. Clark, executive secretary, the plan was popular last year. The bonus program was announced to plumbers with an ad and story in the publication, *Maryland Master Plumber.*

Here's how a fuel oil dealer increases customer confidence

— and reduces service calls!

by supplying clean, dry fuel oil

AABERG USES WARNER LEWIS SEPARATORS FOR . . . . . efficient water separation
solids filtration down to 5 microns
assured quality product

RESULT . . . . INCREASED BUSINESS

Warner Lewis Company Offers Two Separator Designs

- **Excel-So Separator-Filter** contains bulk filtration media designed for long life — efficient water removal — excellent solids filtration
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WRITE FOR DETAILS

DIVISION OF FRAM CORPORATION

Atlantic Refining Co. opens new Philadelphia Terminal

A HEATING OIL TERMINAL occupying more than three acres in Philadelphia was recently opened by The Atlantic Refining Co. An open house for fuel-oil distributors in the area was held October 22.

The new plant will provide storage for dealers throughout the northeast section of Philadelphia and in Bucks and Montgomery counties. Supplies will be fed directly to the storage tanks by pipe line from Atlantic's refinery at Point Breeze in South Philadelphia.

Among *those attending the opening of Atlantic's terminal in Northeast Philadelphia were (left to right) J. A. Russum, operations manager of Atlantic's Philadelphia-New Jersey marketing region; W. S. Shockley, Atlantic manager, fueloil sales; Gene Mondell, Mondell Brothers; and George Young, Young Brothers.*

Located at the terminal are a 2½ million gallon fueloil tank, a 400,000 gal. kerosene tank, drive-through loading racks and an office building. A 6,000 gal. tank trailer can be loaded in less than 15 minutes, and the loading time for a 1,250 gal. tank truck is less than six minutes.

Six large trucks can load simultaneously at five 25-ft. racks, each with a weather canopy to permit fast, uninterrupted service regardless of weather.

❖

Typhoon Air Conditioning merges with Hupp Corp.

ANOTHER MERGER in the airconditioning industry takes place when Typhoon Air Conditioning Co., Brooklyn, N. Y., merges with Hupp Corp., Cleveland, O. According to a joint statement by Don V. Petrone, president, Typhoon, and John O. Ekblom, chairman of Hupp's executive committee, the directors of each company have approved the merger agreement.

Typhoon manufactures residential and commercial packaged airconditioning equipment. Hupp manufactures airconditioning equipment, electronic equipment and sub-assemblies for the automotive and aircraft industries.

Sales are turning greener every day

YOU'LL see it everywhere — the famous Mountain Spring Green that says, "Here's another Mueller Climatrol heating or cooling unit." Yes, and all these installations tell a profit story . . . show how easy it is to sell the all-'round superiority of Mueller Climatrol.

Make it your great green line for '56. Enjoy all the preselling benefits of a new, hard-hitting advertising program . . . see how the industry's most comprehensive practical sales promotion program helps you. Go to town with the world's most complete line of products for heating and cooling.

Write for facts. Mueller Climatrol, 2050 W. Oklahoma Avenue, Milwaukee 15, Wisconsin.

Look for more in '56 with

Mueller Climatrol

HEATING and COOLING

98th Anniversary

NEARLY 100 YEARS OF MANUFACTURING QUALITY COMFORT EQUIPMENT

Summer Profits: Invention supplements lawn Spraying

MOST DEALERS would like to find a way to employ their drivers and idle trucks during the summer months. Many have looked over the lawn spraying industry, and some have found it profitable.

Balanced against these dealers who have found this new endeavor a profitable way in which to use idle trucks and manpower are those who are not too enchanted. Some of them have complained about the unsatisfactory combination of chemicals and controls.

Others say it isn't as easy as it looks to train personnel. A few dealers who haven't followed manufacturers' directions have found the fertilizer chemicals corrosive and detrimental to trucks. Consumers have a complaint too. In addition to a fertilizing job—they'd like something done about the bugs and weeds.

Joseph Coopersmith has come up with a new invention, the Lawnscaper, that offers more complete care and avoids some of the complaints listed above. The invention is a single, self-powered unit that performs several functions at the same time.

Easy to operate and complying with safety standards, the machine mows, rolls, mulches, fertilizes, seeds and areates the lawn. It also controls weeds and insects.

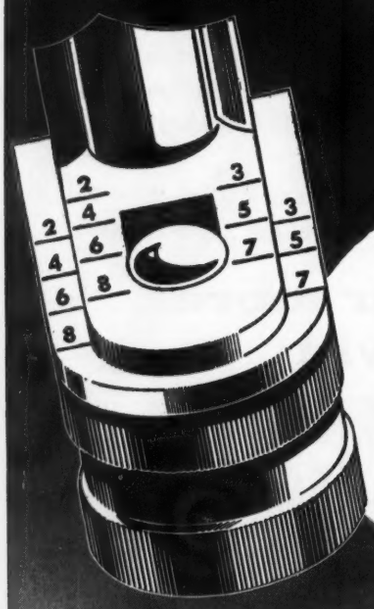
According to Coopersmith the machine will not be sold outright, but will be furnished under a franchise arrangement.

Components of the Lawnscaper include: The basic unit, a heavy-duty

Joseph Coopersmith, *president of The Lawnscape Co. of America, New York, demonstrates the Lawnscaper which he invented.*

HERE'S THE WEIGHT That LIGHTENS Your Work

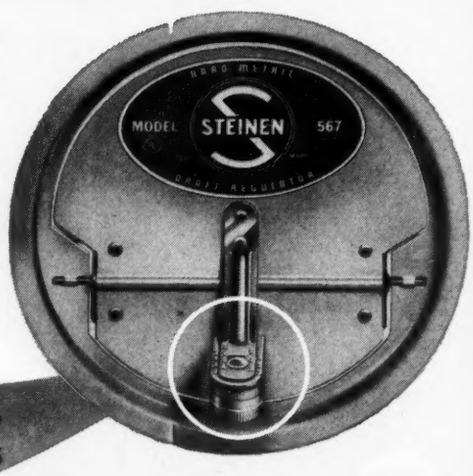
—adjustments made within seconds.



Weight adjustments are calibrated clearly and accurately for quick and easy setting.

To set for any draft, loosen front knurled weight 1 to 2 turns and tighten after matching two lines of desired setting. Rear weight moves with front weight so that true balance is always maintained.

The same method applies for either horizontal or vertical installation. It is not necessary to interchange ANY parts on the Steinen Draft Regulator.



STEINEN DRAFT REGULATORS ARE NOW AVAILABLE IN ALL POPULAR SIZES

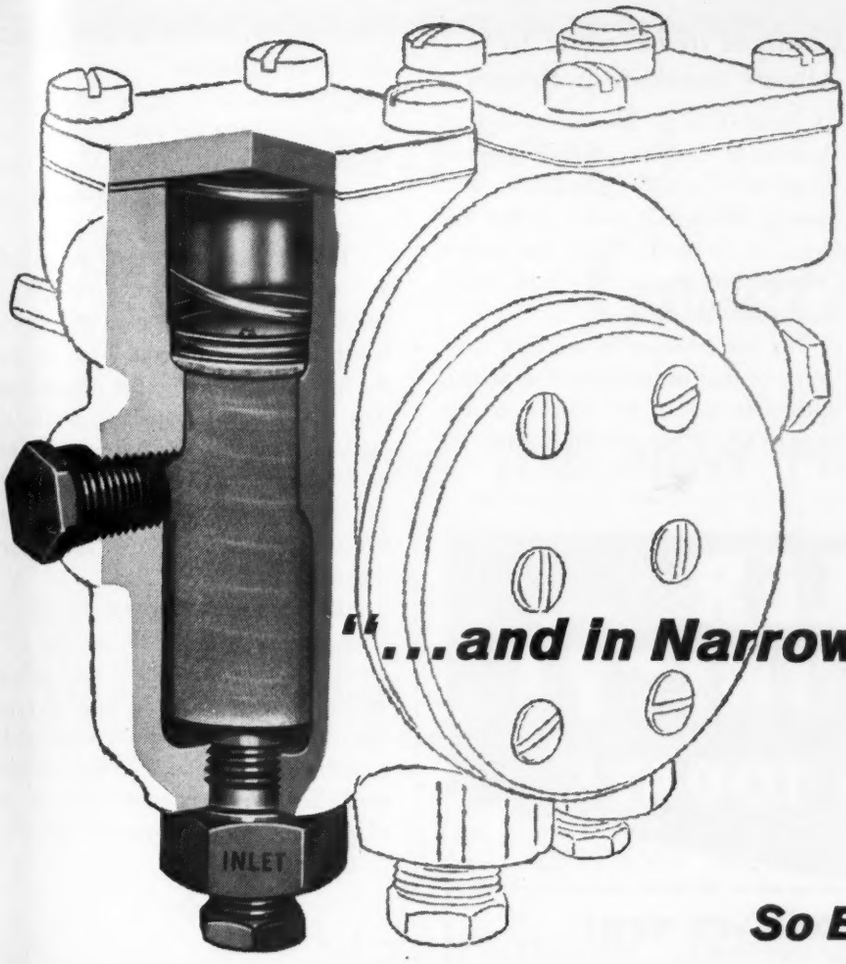
ESTABLISHED 1907

STEINEN

TRADE MARK

WM. STEINEN MFG. CO. 43 Bruen St., Newark 5, N. J.

MANUFACTURERS OF ACCESSORIES FOR OIL HEATING AND AIR CONDITIONING



"...and in Narrow Vestibules..."

So Easy to Service...

WEBSTER'S NEW SERIES 8000 FUEL-UNIT

THERE'S NO NEED TO PULL THE ENTIRE BURNER OUT OF NARROW VESTIBULE JOBS to clean the strainer. With Webster's new Series 8000 Fuel-Unit **ALL SCREWS ARE LOCATED ON TOP OF THE UNIT** where they are easy to reach. Just remove the cover and lift out the one-piece basket-type strainer, **WITHOUT SPILLING A DROP OF OIL.** The monel metal strainer is internally strengthened to prevent collapse. And **ALL OF THE FILTERING SURFACE IS COMPLETELY EXPOSED,** simplifying cleaning.

This greater ease of cleaning is only one of the many extras engineered into the completely redesigned Webster Series 8000 Unit. Write today for the complete story. Ask for Bulletin A8A2.

Similar fuel-units are made for sale in Canada by Canadian Acme Screw & Gear, Ltd., of Toronto under license by Webster Electric Company

WEBSTER ELECTRIC RACINE WISCONSIN

MANUFACTURERS OF FUEL-UNITS, IGNITION TRANSFORMERS AND DELAYTROLS

dual rotary type Musgrave motor; an air cooled, 6 hp motor, which operates at 2,600 rpm; a gear box with two forward drives plus reverse, maintaining the blade speed at 4,500 rpm.

Attached to the mower is a heavy trailer. At the front is a rack which holds 4 fibre drums which carry seed, fertilizer, weed killers and pesticide. Chemicals are in the form of small pills which drop into a measuring device and are then thrown by centrifugal force.

Changes to be made in Albany marketing Report

ON PAGE 56 of the November Issue of FUELOIL & OIL HEAT appears a condensation of a report prepared by Oilheating Market Reports on the Albany, N. Y. area. Under the section "Competitive Fuels and Costs," these changes should be made:

The last sentence of the fifth paragraph of that section should show that anthracite coal at $25.50 per ton figures to "9.7¢ per therm, making the cost of coal on a Btu basis about equivalent to No. 2 fueloil."

The last portion of the next paragraph, discussing the rates charged by Niagara Mohawk Power Corp. for natural gas, should be changed to read:

"Taking an average of 25 therms of gas used each month for cooking and water heating some gas usage for house heating still would fall under the higher rates before the lowest rate step is reached. Comparing gas heating costs on this basis for a typical home requiring 1,500 gals. of fueloil (at a cost of $205.50) gas heat at $210.90 would be 2.6% above the cost of oil."

Also, there are two typographical errors. At the top of the second column the price of fueloil per gallon should be 13.7¢, not 13.7% as shown. And in the last column under "Advertising Promotion," copy should read that marketers spent an average of ½% of gross sales income, not 12% as shown.

❖

New York Meeting analyzes oilheating Advertising

A MEETING, sponsored by Oilheating Market Reports, New York, N. Y., and held on October 20 in New York, afforded an opportunity for representatives of 22 markets to present their oilheating advertising programs. Present at the meeting also were representatives from 17 major oil companies and five independent terminal operators.

All of the markets represented were among those which have been surveyed by OHMR to determine the present status of oilheating there, the competition it faces from other fuels and an indication of the future prospects for the oilheating industry. Ultimate objective of the reports is to permit the supplying companies to determine the extent to which they will co-operate in promoting oilheating.

The October 20 meeting was called specifically to analyze programs already under way in the various markets and to obtain an indication of progress being made in the type and scope of the promotion.

DEALER OPPORTUNITY!
MAIL THIS TODAY!

SEND THIS COUPON—ACT NOW!

Gilbert & Barker Mfg. Company
West Springfield, Mass.

Dear Sirs: Send me all the facts today on your oil burner Dealer Plan.

Name_____

Address_____
(STREET)

City_____ State_____

GET ALL THE FACTS ON
GILBARCO
SPECIAL LOW PRICES

FOR ITS COMPLETE LINE OF HEATING EQUIPMENT

Meet and beat your competition with no narrowing of your profit margin! Now you can sell the famous Gilbarco line of heating equipment at special low prices. Gilbarco decentralized distribution facilities now in operation, complementing expanded production facilities, make this possible. For a wider market with more sales and profits – investigate this great opportunity today!

Season's Greetings

from THE NEW HOME

of

Hago Products

1120 Globe Avenue

Mountainside, New Jersey

Westfield 2-8688

Beginning December first we will be operating from our new plant.

With our increased facilities we will be able to serve you better and faster than ever.

Quickdraft

CURES NATURAL DRAFT TROUBLES

Increasing concentration of carbon and sulphur dioxides in the atmosphere, recently reported by scientists, handicaps ordinary chimneys by decreasing natural draft (CO_2 is 55% and SO_2 is 225% heavier than air) . . . and by demanding more draft because additional air is required to provide sufficient oxygen. In addition, current trends constantly demand more draft . . . (1) new fuels that require more oxygen . . . (2) longer flue travel in furnaces and boilers. As a result, more and more heating plants operate at low efficiency because of gravity draft troubles.

WITH POWER DRAFT THAT ASSURES HEATING PLANT EFFICIENCY

. . . No Fans or Motors in Smoke Line

Quickdraft power draft stops sooting, eliminates chattering, drys wet chimneys and greatly increases combustion efficiency. It does not obstruct smoke line with fans or motors. Quickdraft assures top performance from old and new heating plants. All models are approved by Board of Standards and Appeals, New York City. Write today for details.

Residential models for smoke outlet diameters 6, 7, 8, 9 and 10 inches.

N-285-QD

Quickdraft COMPANY
Canton 1, Ohio

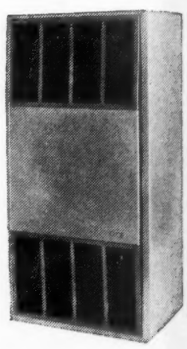
QUICKDRAFT COMPANY
Dueber-Hampden Building
P. O. Box 87-F
Canton 1, Ohio

New Products

Each New Products item has an identifying number. If you want more information on any equipment described here send the coupon on page 100 to FUELOIL & OIL HEAT, *2 West 45 St., New York 36, N. Y., and identify the product by circling its number on the coupon.*

Wall Furnace by H. C. Little redesigned for greater eye Appeal, Compactness

MODEL NO. 86 oil wall furnace by H. C. Little Burner Co. has been designed for greater eye appeal and more compactness. Overall measurements are 30" wide, 24" deep, and 62" high with a Btu hourly output of 65,000. Intake registers and warm air discharge registers are located on both sides of the unit.



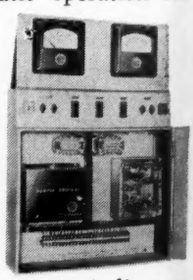
Equipped with fan for forced air circulation, the unit also has electric ignition, electrically-controlled oil valve and automatic thermostat controls. In the event of electric power failure the unit may be operated by hand.

Made by: H. C. Little Burner Co., Inc., San Rafael, Calif.

Circle E1 on coupon, page 100

Fireye has new AC panel control Systems for commercial Burners

THE NEW FIREYE AC panel control systems are designed to provide burner protection and automatic operation for commercial-industrial burners. Flame failure safeguard, programming control, short-circuit protection, motor starters, fuel selector switches, signals and alarms are combined in a single, integrated panel unit, pre-wired at the factory.



Optional equipment includes sequence draft controls, draft and temperature indicators, and provision for switching to modulated, or fixed-rate firing. Fireye systems employ the flame-sensitive "Firetron."

Made by: Electronics Corp. of America, 718 Beacon St., Boston, Mass.

Circle E2 on coupon, page 100

What to look for in a circulator

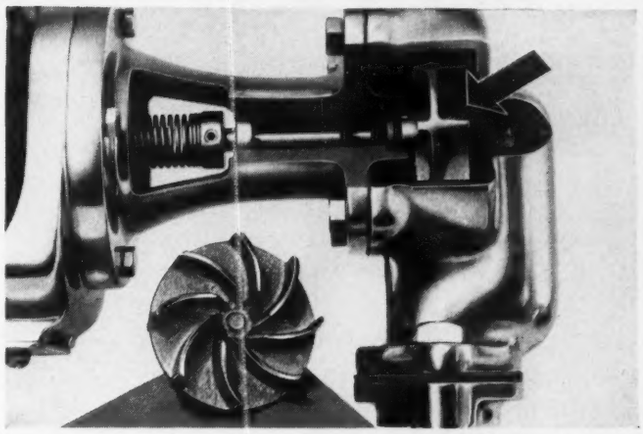
Taco

TACO HEATERS INCORPORATED
1160 Cranston St., Cranston 9, R. I.

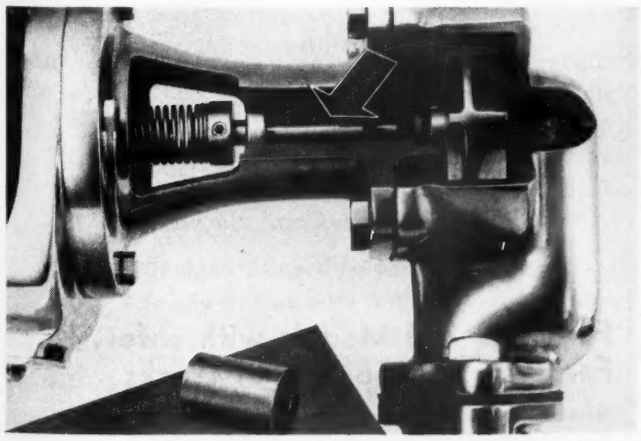
Corporate Office | 342 Madison Avenue, New York 17, New York

In Canada | Taco Heaters of Canada, Ltd., 4 Gilead Place, Toronto 2

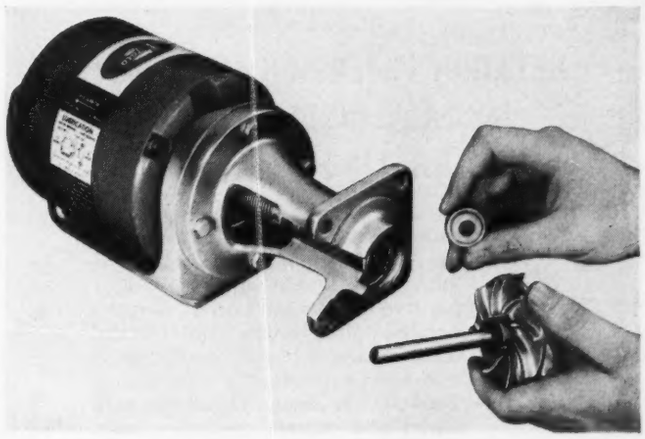
EXTRA LARGE AND QUIET OPERATING MOTOR



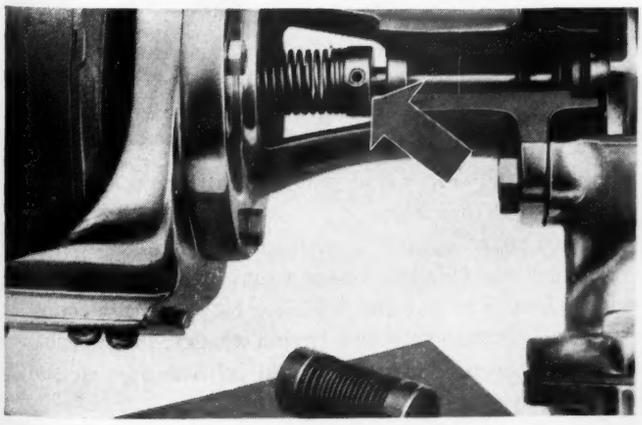
ONE-PIECE, LIFELONG IMPELLER WITH STAINLESS STEEL SHAFT



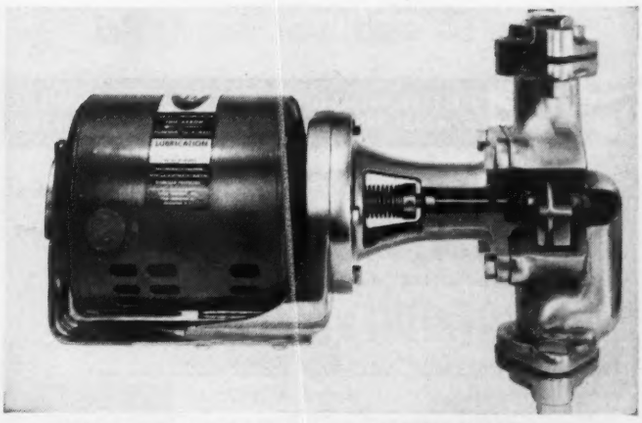
POROUS BRONZE BEARING



TWO-PIECE, EASILY REPLACED SEALS



SPECIALLY DESIGNED, SAFE DRIVE COUPLING



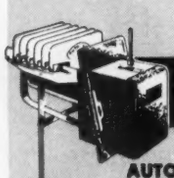
YOU'LL FIND ALL IN TACO . . . THE POWER-PACKED CIRCULATOR YOU CAN DEPEND ON!

Easiest of All to Install!

Auto-flo
FUEL OIL FILTER

HEXAGON EXTENSIONS designed for EASY INSTALLATION of OIL LINE FITTINGS

More features means better heat for your customers—more profits for you. Double filter provides positive protection against clogged nozzles. One piece construction, with reinforced bolt spud, guaranteed permanently rustproof. Trouble free design eliminates callbacks and insures customer satisfaction. Use Auto-Flo Oil Filters on every installation — gravity or pressure type burners.



ASK YOUR WHOLESALER ABOUT THE . . . Auto-flo "100" AUTOMATIC HUMIDIFIER

AUTO-FLO CORP., 14590 Schaefer, Detroit 27, Mich

Please send me full information on:

☐ Auto-Flo Fuel Oil Filter

☐ Auto-Flo "100" Automatic Humidifier

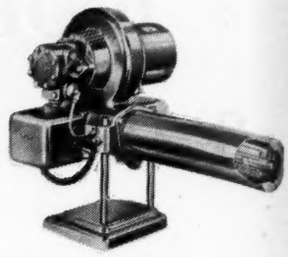
Name_____

Address_____

City_____ Zone_____ State_____

Heil conversion Burner is equipped with burner-mounted primary Control

THE PERFEX BURNER-MOUNTED primary control, which eliminates any need for external line voltage wiring, is now available on oilburners manufactured by The Heil Co. A steel jacket, mounted onto the side of the burner, contains the transformer, relay, safety timer, ignition timer and other standard primary components.



The heat-sensing element is hermetically sealed and located inside of the firing tube. Soot deposits do not hamper operation.

Made by: The Heil Co., Milwaukee 1, Wisc.

Circle E3 on coupon, page 100

Flexi-cool airconditioning Unit allows Flexibility in arranging air Intake

WORTHINGTON CORP.'S new Flexi-cool airconditioning unit has sectional, flexible construction to allow for horizontal or vertical positioning. New design permits flexibility in arranging air intake and delivery.

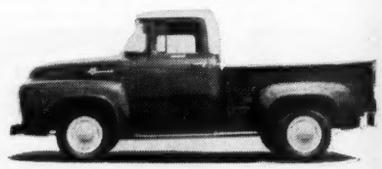
Adaptable to limited space conditions the unit may be installed on floor or hung from ceiling on joists. Sections available separately. Provides 2 to 7½ tons of cooling at 2 to 7½ hp.

Made by: Worthington Corp., Harrison, N. J.

Circle E4 on coupon, page 100

Ford has 200 Models with safety Features in 1956 Line of Trucks

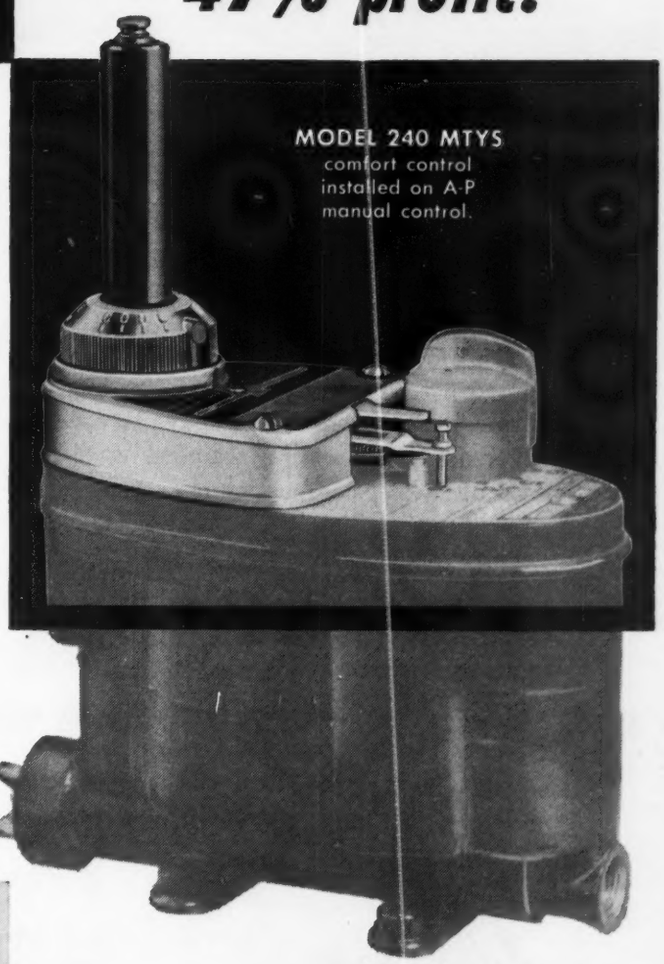
SOME 200 TRUCK MODELS are included in the 1956 line of Ford trucks. Gross vehicle weights extend from 5,000 lbs. on the pickup to 42,000 lbs. on the heavy duty tandem axle models. Cab design introduces increased visibility of wraparound windshields and optional wraparound rear windows.



Two safety features are standard for all models: a safety steering wheel designed with a rim three inches above the horn button to give the driver's chest added protection in case of a crash; safety door latches which reduce the chance of doors opening in an accident. Tubeless tires are standard equipment this year.

Circle E5 on coupon, page 100

12 convincing points that sell A-P automatic comfort to oil space heater customers ... and give YOU up to *47% profit!



NO SERVICE CALLS — customer installs accessory in 5 minutes or less.

1. **Dependable snap action** — automatically modulated in exact response to temperature changes!
2. **Even, healthful heat.** Eliminates annoying "highs" and "lows".
3. **Easy-to-set dial** (warm, moderate, cool)
4. **No electrical wiring** — Not affected by current failures.
5. **Built-in thermostatic element** — Sensitive to slightest temperature variations.
6. **Takes little room** — Only 4½" high.
7. **Single unit** — Everything complete.
8. **Simplified design** — Nothing to wear out.
9. **Retails for $12.95.**
10. **Listed by Underwriters Laboratories.**
11. **Complete installation instructions.**
12. **Fits any heater with A-P manual control.**

*Get details NOW on the BIG A-P PROFIT-PACKAGE DEAL

A-P plays Santa Claus early! And how! A choice of 4 different Profit-Packages of A-P automatic oil accessories . . . specially selected to move fast . . . incentively priced out of this world! Big whoppin' profits up to 47%!

SEE YOUR A-P REPRESENTATIVE, OR WRITE IMMEDIATELY.

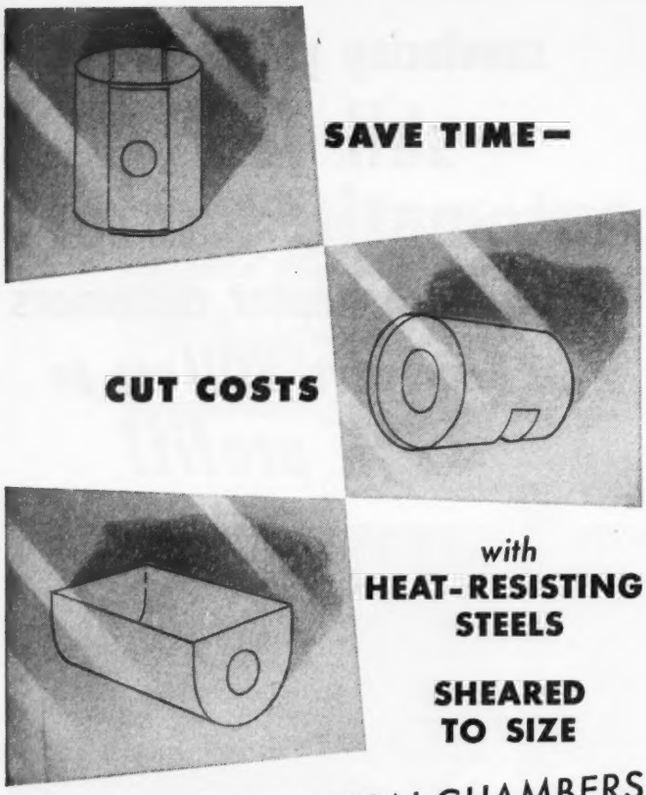
Initial cost less than 4c a day

When figured on an annual basis — that's little enough to pay for the comfort of even, healthful heat. And millions of Model 240 MTYS controls in use clearly illustrate it's one of today's biggest heating bargains. In spite of the low cost, there's a nice margin for you. Don't delay — order stocks today. See your distributor, or write:

A-P CONTROLS CORPORATION

2458 N. 32nd Street, MILWAUKEE 45, Wis.
COOKSVILLE, Ontario NIJMEGEN, Holland
For Export: 13 E. 40th Street, New York 16, N.Y., U.S.A.

DEPENDABLE *Controls*
For Air • Liquids • Gases • Refrigerants



SAVE TIME—

CUT COSTS

with
HEAT-RESISTING STEELS

SHEARED TO SIZE

for your COMBUSTION CHAMBERS

In more ways than one, it pays to specify Ingersoll heat-resisting stainless steel for your oil burner combustion chambers.

Ingersoll heat-resisting stainless has exceptional forming qualities—so it's easy to fabricate. Its analysis is correct—to withstand high temperatures. It's made by specialists—so you know it's made right.

Whether you use these steels in large or small quantities, Ingersoll facilities offer exceptional service by custom shearing to your own specified combustion chamber blanks, or multiples thereof.

Advantages
OF HEAT-RESISTING STEELS

★ *No breakage in shipment or handling*

★ *Lighter weight lowers freight costs*

★ *Quicker heating—greater efficiency*

Write, wire or phone for details

ENGINEERING B-W PRODUCTION

Ingersoll
STEEL DIVISION
Borg-Warner Corporation
310 S. Michigan Ave., Chicago 4, Illinois
Plant: New Castle, Indiana

Peter Smith Heater producing oilfired water Heaters, package boiler Units

A LINE of oilfired equipment announced by Peter Smith Heater Co. consists of water heaters and package boilers; the units are of the cylindrical type and can be fired in either a vertical or horizontal position. Burner and all controls are completely enclosed by a removable cover.

Boiler proper is a steel cylinder, 16¼" in outside diameter and 42" long with flat recessed ends. An 8" dia. cylinder passes through this with a parallel, but eccentric, axis, lined with a stainless steel drum. It acts as the firing chamber and hot combustion gases after leaving the firing tube strike an insulating brick and are deflected to pass over the entire outside surface of the drum.

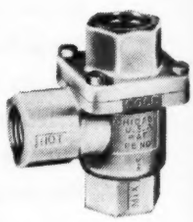
Domestic water is heated in an indirect, copper coil, with 5 gpm available on short bursts and 2.2 gpm, with 100° F. rise, on a continuous draw.

Made by: Peter Smith Heater Co., 120 Mt. Elliott Ave., Detroit 7, Mich.

Circle E6 on coupon, page 100

Water Mixer introduced by Dole Valve maintains water Temperature at 140°

DOLE VALVE CO. has introduced the Dole No. 100 water mixer which is designed to mix hot and cold water from a storage tank, automatic water heater or tankless heater to maintain a constant temperature of 140°.



The water mixer is a valve incorporating the Dole power element. No adjustment is required in the field. It is installed close to the tank or hot water supply.

Made by: The Dole Valve Co., Plumbing and Heating Division, 1933 Carroll Ave., Chicago 12.

Circle E7 on coupon, page 100

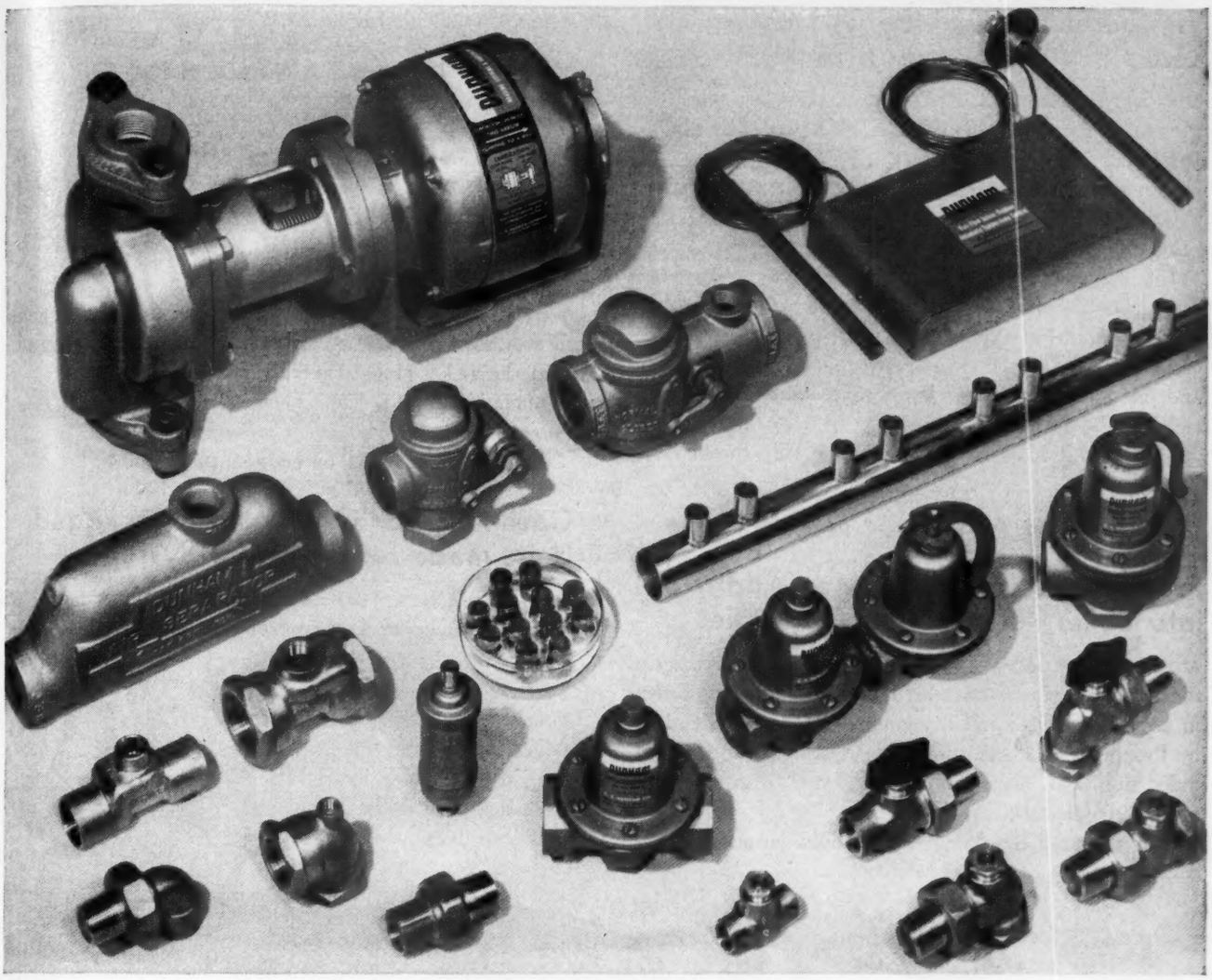
Boiler designed for large homes, small commercial Buildings made by Crane

CALLED THE SUNNYDAY 20 is an all purpose boiler designed to fill the gap between the small residential and the large commercial boilers. Crane Co. has designed the oilfired boiler for large homes or small commercial buildings.

The boiler is jacketed in two-tone gray hammerloid and has Crane's "tailored combustion system" with its combination of firebox and "x" type flue baffles. Preformed refractory combustion chambers make installation quick and easy.

Made by: Crane Co., 836 S. Michigan Ave., Chicago 5, Ill.

Circle E8 on coupon, page 100

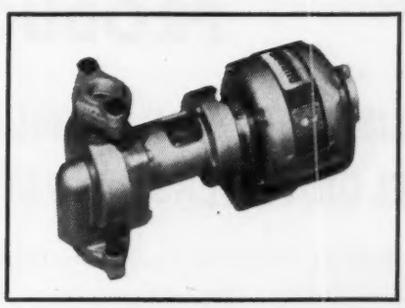


HERE'S EVERYTHING BUT THE BOILER ...FOR EVERY HOT WATER JOB

Dunham's hot water line is just that complete . . . actually includes everything except the boiler. One order covers everything you need . . . including radiation . . . and puts full responsibility for performance on one source. Every item has special features that simplify installation.

Dunham Circulators, for example, are easy to install with few tools. Selected brand-name motors with dynetrically balanced impeller assure quiet, vibration-free pumping.

Dunham's single-spring motor coupling is guaranteed for the life of the Circulator . . . simplifies stocking and servicing problems. Extra large oil reservoir. Rotary seals easily replaced in the field. For all the facts, clip and mail the coupon.



Dunham Circulator
Standard and High Head Capacities

DUNHAM® **HEATING & COOLING EQUIPMENT**

RADIATION • CONTROLS • UNIT HEATERS • PUMPS • SPECIALTIES

C. A. DUNHAM COMPANY • CHICAGO • TORONTO • LONDON

C. A. DUNHAM COMPANY
Dept. FOH-12, 400 W. Madison Street
Chicago 6, Illinois

Send complete Hot Water Line Bulletin

Name_____

Firm_____

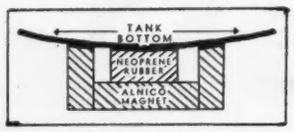
Address_____

City_____ Zone_____ State_____

fuel oil & oil heat

Van Buren's Magne-Patch stops Leaks in fueloil storage Tanks

ALNICO PERMANENT MAGNETS are used to stop leaks in storage tanks by the Van Buren Sales Co. The Magne-Patch has a neoprene rubber button which is placed over the leak and pressed into place.



The seal made is described as capable of holding up to five times any pressures likely to be encountered even during filling operations. Installs easily in hard to reach places between legs and leg brackets and on tank ends. Can be applied to tanks lacking wall clearance.

Made by: Van Buren Sales Co., 19 Van Buren Ave., Floral Park, N. Y.

Circle E9 on coupon, page 100

Proportioneer's Pump feeds Additives into Boilers in accurate Quantities

ADJUST-O-FEED heavy duty proportioning pump is designed for pumping petroleum and boiler feed water additives in accurate predetermined quantities. Called Model 1105 by Proportioneers, Inc., the pump is available in four cylinder sizes with capacities ranging fro 0.18 gph at 1800 psig, to 20 gph at 300 psig.

Easy to install the unit requires minimum maintenance. It has maximum flexibility in handling chemicals, pressures and capacities.

Made by: Proportioneers, Inc., Division of B-I-F Industries, Inc., Providence, R. I.

Circle E10 on coupon, page 100

B & K aluminum tank Sticks have etched Numbers that won't rub off

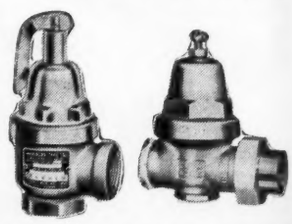
NUMBERS ON THE B & K aluminum tank gauge stick will not rub off because they are deeply etched in the recessed face of the stick. Comes in stock sizes up to 19'. Easy to read, the stick is plugged at both ends.

Made by: B & K Tank Gauge Corp., 44 Lehigh Ave., Paterson, N. J.

Circle E11 on coupon, page 100

Cash-Acme's 'CAF' series packaged Units made for hot water Systems

CASH-ACME'S NEW "CAF" series packaged units consist of an automatic boiler feed control valve and a safety relief valve to prevent dangerous over pressure. Type A-39 pressure reducing and regulating valve keeps the pressure in the system above 12 pounds automatically.



Both valves in the pack-

Firomatic PRODUCTS

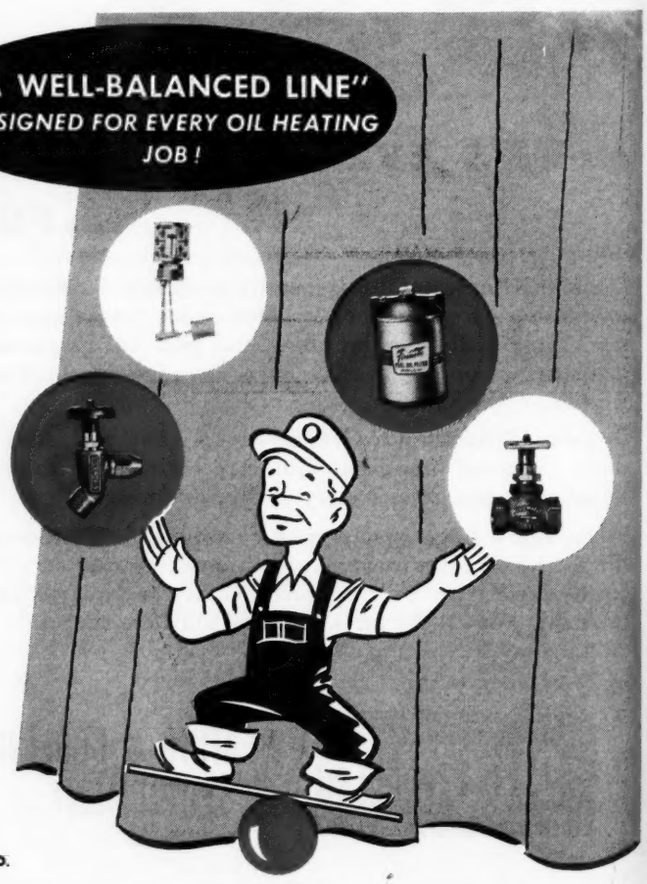
FUSIBLE & NON-FUSIBLE VALVES
FUEL OIL FILTERS • SAFETY DEVICES

The famous Firomatic line offers both the jobber and the installer every advantage — a substantial profit on every product . . . trouble-free performance . . . ease of installation . . . and the right product for every job!

The Firomatic line includes over 80 different types of Valves, as well as Thermal Switches, Fuel Oil Filters, Tank Gauges, Fill Boxes and Vent Caps.

THE MORSE SMITH MORSE CO.
165 Dexter Avenue • Watertown, Mass.

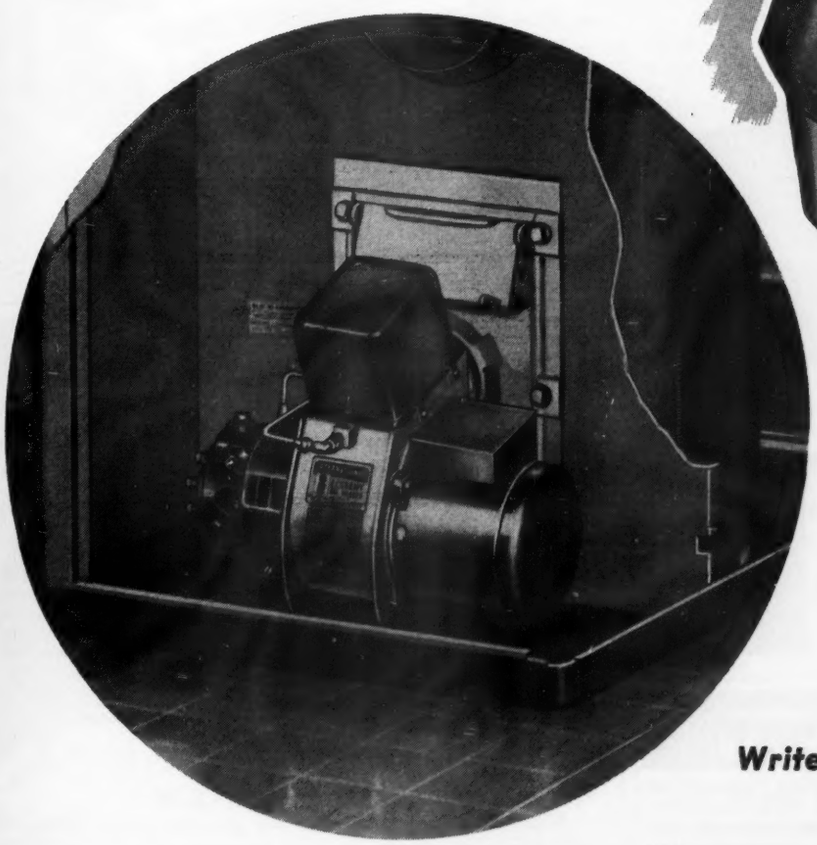
"A WELL-BALANCED LINE"
DESIGNED FOR EVERY OIL HEATING JOB!



SOLD NATIONALLY BY JOBBERS ONLY

Perfection
Burners use Delavan Nozzles as Original Equipment

Delavan Nozzles were selected as standard equipment in Perfection oil burners for two important reasons: Perfection engineers found that Delavan Nozzles deliver smooth, quiet, efficient fires. Delavan Nozzles are uniformly dependable, nozzle after nozzle.



A leader in the manufacture of oil-fired furnaces, Perfection Stove Company offers an exclusive feature in its Regulaire Circulation. Regulaire automatically regulates the flow of air through the blower to match the amount of warmth coming from the furnace. This unique feature eliminates hot and cold blasts; assures smooth, full-time heating comfort.

For your replacement nozzles choose the nozzle first choice with over 120 manufacturers of oil fired furnaces . . . Delavan.

Write for Catalog No. 148B

DELAVAN
Manufacturing Co.
WEST DES MOINES, IOWA

MEMBER OHI OIL-HEAT INSTITUTE OF AMERICA

Only WALKER Has It!

Automatic Draft Control with

Full Protection at All Vital Points!

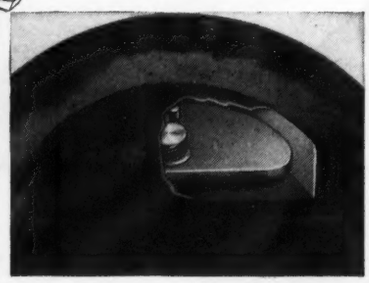
Pat. Pending

Royal Purple Model

Think of it! A draft control that's absolutely impregnable to soot, carbon, corrosion and dust . . . one that will give years of accurate, trouble-free service in spite of the most adverse operating conditions! The new Walker ROYAL PURPLE model is the first—and only—draft control with positive, all-point protection. These revolutionary improvements can't be copied or duplicated — they're exclusively Walker because of pending patents.

The Royal Purple — Hit of the Philadelphia Show

THE INSIDE STORY



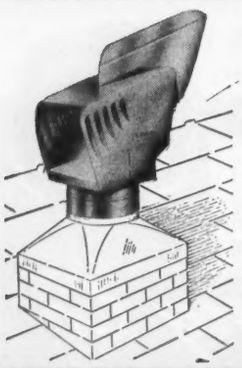
The weight adjustment assembly on the ROYAL PURPLE model is sealed in by a protective housing which keeps mechanism absolutely free from dirt deposits. Unretouched photo at right shows back of vane and housing after more than a year's service. Cutaway shows spotless condition of sealed-in weight adjustment assembly. Clean, corrosion-free operating parts assure ease of adjustment at any time.

This front view of an actual installation shows location of pivot pins which control vane movement. Notice how they are located on front face of damper and set back, away from edge. Box-type hinges completely seal delicate knife-edge pivots, keeping them clean and sensitive even after years and years of service.

For complete details on this sensational new development in draft control, see your jobber or write Walker Manufacturing and Sales Corporation.

Another Outstanding Walker Development

VENTURI-TOP CHIMNEY CAP



Ideal for both heating (gas, oil or coal) and ventilating applications. Directional vane keeps throat of vent facing into wind for maximum draft control. Sloping-throat design prevents back drafts and actually increases draft effectiveness by constricting it as it passes over chimney opening. Unit rotates on a friction-free, hardened-steel ball bearing. Pivot is also of hardened steel to assure lifetime operation. Ring guide bearing in pivot post keeps cap absolutely perpendicular—doesn't sag or lean. Streamlined design is both attractive and functional — a combination which makes it a favorite with today's architects.

Walker Manufacturing and Sales Corp.

1750 Penn St. St. Joseph, Mo.

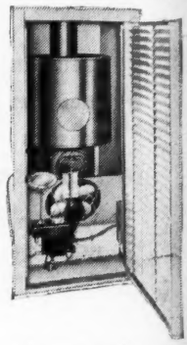
aged unit are fully automatic. In case of an emergency wherein steam is generated, maximum boiler heat input is instantly relieved.

Made by: A. W. Cash Valve Manufacturing Corp., Wabash and Morgan, Decatur 60, Ill.

Circle E12 on coupon, page 100

Recessed Heater for small Homes made by U. S. Machine has 58,000 Btu Output

AN OILFIRED recessed heater which includes thermostatic control and automatic air circulation is being made for small homes by U. S. Machine. The 58,000 Btu output heat has a "Gyro-jet" vaporizing burner and the furnace-type welded steel heat exchanger. No masonry chimney is required.



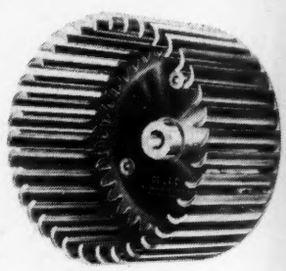
The unit is available in three models with manual control, electric wall thermostat or modulating thermostatic control. It can be installed in a closet or alcove with optional warm air side grilles on either or both sides or the rear of the heater. A circulator-booster fan provides the pressurized air for combustion and is synchronized with the oil flow rate.

Made by: U. S. Machine Division, Stewart-Warner Corp., Lebanon, Ind.

Circle E13 on coupon, page 100

One-piece, molded plastic blower Wheel made by Denbo Engineering

"DESCO" IS A one-piece, molded plastic blower wheel manufactured by Denbo Engineering Sales Co. It has maximum quietness, close balance tolerance and is corrosion proof and light in weight. Being in one piece, it is always dimensionally constant and cannot be distorted during assembly, handling or shipping.



Blades on both single and double inlet type of blower wheel can be supplied in any lengths to custom fit any application.

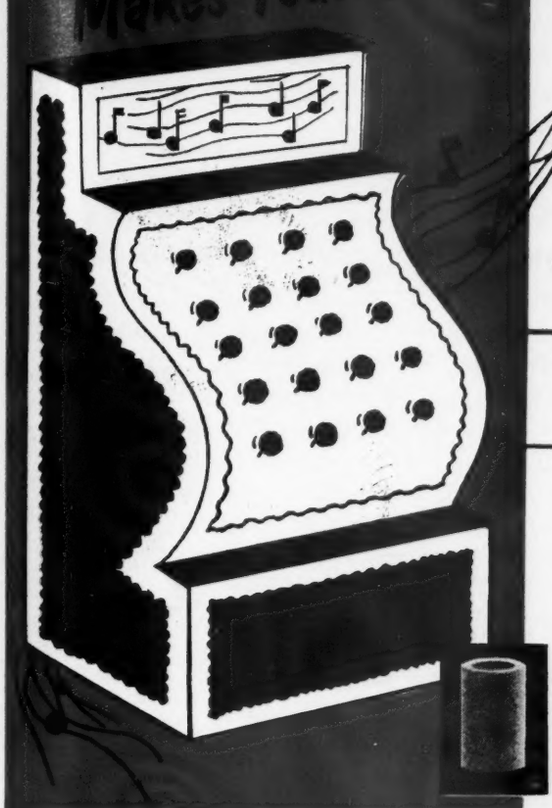
Made by: Denbo Engineering and Sales Co., Inc., 3301 Martindale Ave., Indianapolis 18, Ind.

Circle E14 on coupon, page 100

Packaged oilheating Units and hot water Baseboards for '56 announced by Patco

PATCO PACKAGED oilheating units, available in either a flush or enclosed model, for 1956 have been announced. They are equipped with 4 gpm tankless heaters and are factory wired, assembled and ready for installation. Units have a high head circulator as standard equipment and are designed and crated to be moved without damage. Made

Makes Your Cash Register hum a new $ $ $ tune!



new

Klemm

MICRO FUEL OIL FILTERS

- Attractive New Packaging
- Lower Prices
- Hi-Chrome and Brushed Zinc Plated

PK-150 U/L ▶ FF-430G ▶ FF-430 U/L ▶

Everything about these new Klemm Micro Fuel Oil Filters spells more profits for you. Still tops in all-round guaranteed performance; traps water and scientifically removes all foreign matter from every drop of fuel oil, eliminating nozzle and line clogging.

SEND FOR 1955-56 Catalog and new low prices

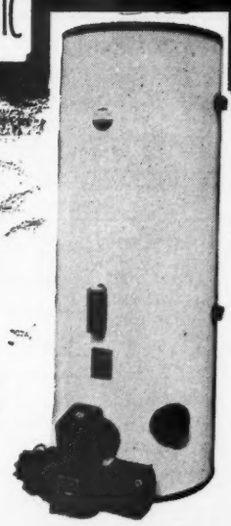
®

CHEMISTONE Micro ELEMENT (not a ceramic). The replaceable Chemistone Element offers true depth filtration . . . practically no flow resistance. Chemistone is NOT interchangeable with any other type cartridge. The seasonal element replacement business is YOURS and remains YOURS.

Klemm PRODUCTS
Division of
KLEMM AUTOMOTIVE PRODUCTS COMPANY
1722 North Damen Avenue • Chicago 47, Illinois
EXPORT: Guiterman Co., Inc., New York 4
CANADA: Elgee, Ltd., Toronto

3 times AS MUCH HOT WATER WITH

QUIET AUTOMATIC
OIL FIRED WATER HEATER



FOR YEAR AROUND HOT WATER

CHOICE OF
- GALVANIZED
- COPPER or
- GLASSLINED

NO PILOTS TO TURN ON OR OFF
NO VALVES TO BOTHER WITH
NO EXTRA STORAGE TANK NECESSARY

MADE IN TWO SIZES #90 #200 HEATERS

JUST CLEAN HEATED HOT WATER . . . GOOD ENOUGH TO DRINK

A PRODUCT OF
QUIET AUTOMATIC BURNER CORP.
J. G. KAVENY, President
33-35 BLOOMFIELD AVE. NEWARK 4, N. J.

FREE!

Your copy of HYDROVALVE'S NEW 1955 CATALOG

This valuable catalog of Engineered Oil Burner Replacement Parts is a "must" for every man in the Oil Burner Servicing Field.

It is completely illustrated and shows you everything from gaskets and electrodes to dependable, long-lasting replacement parts for rebuilding fuel units and controls. It also features a complete line of specially designed money saving servicing tools.

Buy from your jobber . . . He serves you well!

Write for your FREE catalog to-day! You'll be glad you did—

HYDROVALVE CO.
1319 Utica Ave., Brooklyn 3, N. Y.
BUckminster 4-1330

Name _____
Address _____
City & State _____

3 WINNING NUMBERS in Hot Water Heating Vents

MAID-O'-MIST® AUTO-VENTS

NUMBER 7

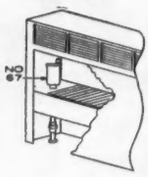
For pressures up to 75 lbs. This self-closing float-operated valve gives positive action for such large capacity, continuous venting jobs as

- **Venting trapped mains and circulating lines**
- **Venting hot water convector radiators**
- **Venting high points on mains**

No air chamber required. Size 4⅜ x 2¼". Send for Catalog Sheet No. 7.

NUMBER 67

For pressures up to 30 lbs. Designed for limited space, this self-closing, float-operated valve provides positive action for such continuous venting jobs as



- **Venting convector radiators**
- **Venting baseboard radiators**

No air chamber required. Size 3-3/16 x 1½". Send for Catalog Sheet No. 67.

No. 27 AUTO-VENT

For Horizontal Mounting Only with ⅛" I.P. female side connection—Size 3" x 2½".

No. 37 AUTO-VENT

For Horizontal Mounting Only with ⅛" I.P. vertical male bottom connection—Size 3" x 2½".

Dependable float operated valves . . . non-ferrous metals . . . no air chamber required . . . for working pressure up to 50 lbs.

MAID-O'-MIST, Inc.
3217 NORTH PULASKI ROAD
CHICAGO 41, ILLINOIS

MAID-O-MIST Inc.
HEATING SPECIALTIES

of heavy steel plate they are available in two sizes with 580 and 720 sq. ft. net steam.

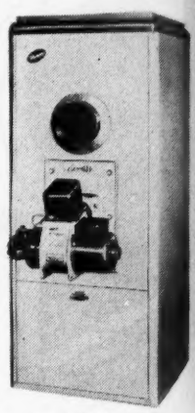
Aluminum fin-type hot water baseboards by Patco contain heating elements are made of heavy gauge copper tubing with a metal-to-metal bonded aluminum spiral fin. Units are furnished in neutral color ready for painting.

Made by: Patco Manufacturing Co., 231 N. Bread St., Philadelphia 6.

Circle E15 on coupon below

Shana adds winter Airconditioners to augment its summer cooling Line

A COMPLETE LINE of "Shana-Heat" winter airconditioners will augment the summer cooling lines of Shana Manufacturing. Hi-boy and counterflow oil-fired units have stainless steel and refractory combustion chambers.



An aluminum foil-faced glass wool blanket insulates the cabinet. The units have automatic overload protector switches and are equipped with centrifugal blowers mounted on rubber.

"Shana-Heat" units are designed to match "Shana-Air" summer airconditioning units to form 24 different combinations and sizes. All units have front access to burner and all controls.

Made by: Shana Manufacturing, Inc., 188 West Randolph St., Chicago 1, Ill.

Circle E16 on coupon below

READER SERVICE COUPON

FUELOIL & OIL HEAT READER SERVICE
2 West 45th St., New York 36
REPLY CARD DECEMBER
Mail Now—Card Expires February 28, 1956

Circle numbers of new product items on which you want more information:

NEW PRODUCTS

E1 E2 E3 E4 E5 E6 E7 E8 E9
E10 E11 E12 E13 E14 E15 E16

ADVERTISEMENTS—Give page number and name of advertiser about whose products you want more information.

Page .....Advertiser .....

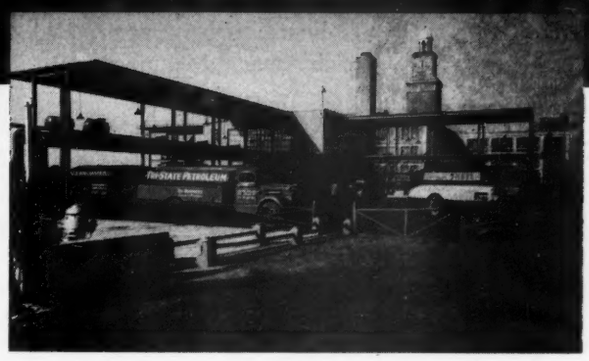
Your Name .....

Company .....**Position** .....

Street .....

City .....

Check Classification of principal dollar volume:
☐ **Fueloil Dealer** ☐ **Parts and Equipment Jobber** ☐ **Manufacturer** ☐ **Manufacturer Employee** ☐ **Manufacturers Rep.** ☐ **Oilheating Dealer** ☐ **Other**



From wide windows, control clerk oversees all operations. Traffic flows smoothly through cross-shaped plant with help of loud speaker system. Centrally located in Flushing, N. Y., the wholesale plant serves hundreds of fuel oil distributors.

Now in Eleventh Year...

Neptune Remote Control Meters

prove big Savings for Island Petroleum

Because it gets trucks rolling minutes faster, the Neptune Remote Control Metering System at this Island Petroleum Corporation terminal permits loading 400 trucks a day! All operations are firmly controlled from inside the office. Each of the remote control, ticket-printing registers in the office is accurately synchronized with a rack meter outside. Automatic interlocks prevent withdrawal of product until authorized by inserting a ticket and clearing the proper register. The printed tickets save many steps in accounting and billing operations.

The plant was opened in 1945. Some of the Red Seal meters have registered more than 100 million gallons, with an excellent record for sustained accuracy and low maintenance. For details of this business-building, cost saving system, write today.

NEPTUNE METER COMPANY
19 WEST 50TH STREET • NEW YORK 20, N. Y.

neptune
RED SEAL METERS

Industry Groups

Activities of local and national industry associations are reported monthly in this department. Secretaries are invited to send reports of their Group's activities to the editor by the 5th.

Oil Equipment Jobbers have an annual Meeting at Kansas City

THE FIFTH ANNUAL MEETING of the National Association of Oil Equipment Jobbers, Tulsa, Okla., took place October 23 to 25 at the Hotel President, Kansas City, Mo. More than 300 oil marketing equipment men attended the combination convention and product exhibit, at which thirty-three manufacturers of oil handling equipment displayed their lines.

Growth of the NAOEJ has been steady with six firms added to the membership within the last month. The Association now has a total of 181 members, of which 107 are oil equipment jobbers and thus active members; 74 are manufacturers with associate membership status. Recent accomplishments of the organization include a membership directory, surveys of service department operations and of salesmen's commissions and the "Tulsa Letter," an informative bulletin edited by Howard Upton, the executive secretary of the Association.

New officers elected during the meeting were: Melvin Schlesinger, Tri-State Equipment Co., Kansas City, Mo., president; W. E. Marshall, Jr., Equipment Sales Co., Atlanta, Ga., vice-president; Eugene de Penaloza, General Equipment Co., St. Louis, Mo., re-elected treasurer and Howard Upton, Tulsa, Okla., re-named executive secretary.

Two new directors were added to the board: E. O. Habhegger, E. O. Habhegger Co., Philadelphia, and Ken Dickinson, Hallidie Machinery Co., Seattle, Wash.; while Fred Coffield, Jr., Coffield Supply Co., South Bend, Ind., whose term had expired, was re-elected.

Four members were added to the eight-man Manufacturers Liaison Committee, including: Robert Wheaton, Wheaton Brass Works, Union, N. J., representing brass goods; Mason L. Thompson, Standard Steel Works, Kansas City, Mo., representing tanks; E. H. Lanthorn, Blackmer Pump Co., Grand Rapids, Mich., representing pumps. Vern Wells, Electric Hose & Rubber Co., Wilmington, Del., is chairman of the committee.

Terming himself NAOEJ's "expiring president," August Schramm, Renick & Mahoney, Inc., New York, N. Y., addressed the convention and called for good human relations with employees as well as customers. He urged the group, in particular, to give proper recognition to the efforts of employees.

Citing some details of his own company's operations, Schramm emphasized the wisdom of concentrating on fewer competitive lines and said that 80% of Renick & Mahoney's sales volume is made up of the products of just ten or twelve manufacturers.

Schramm remarked that oil equipment jobbers need never fear that a manufacturer will divide territories and give his line to competing organizations, if the jobbers will refuse merely to take orders but instead will concentrate on selling the merits of

SO MUCH VALUE at SO LITTLE COST!

THE "SUBURBAN"
A completely packaged* 1955
FUEL OIL TRUCK

The base prices include 2 compartments, full skirting, top shrouding, electric or "Fluid Drive" reel, 125 feet of 1¼" hose. Rear or side installed equipment and variations in basic specifications available in all sizes on different make chassis. Other tank sizes and prices on request. Consideration given to all state and local requirements.

TRADES ACCEPTED and TERMS ARRANGED

*Includes chassis, tank, pumping and metering equipment

All prices include Fed. Tax. Tank prices on other make chassis and trailer prices with specifications on request.

Send for FREE CATALOG FO

Decker Brothers

300 LINCOLN AVE. HAWTHORNE, N. J.

HAwthorne 7-2100 - 01 - 02

Simplify all oil handling

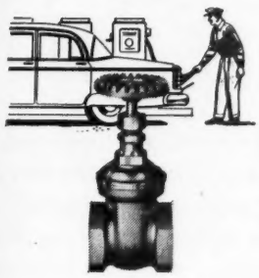
Double-disc design ends seating troubles

Lever throttle valve's ball and socket joints, specially ground for oil service, mean positive closure, longer seat life. Underwriter's approved. Model P-901-U in sizes from ½" to 3".

with the complete line of MILVACO *valves and fittings*

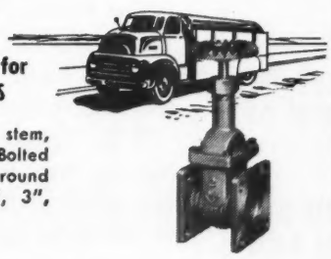
For quick control and maximum flow — in bulk plants, on tank trucks, in service stations — use MILVACO valves, nozzles, faucets, and fittings. Each size and model in the broad line is backed by more than 50 years of development and production of quality products for the oil industry.

Typical gate valves for the oil industry



Model P-2640 for FILLING STATIONS

Bronze. Non-rising stem. Solid wedge. Screwed bonnet and ends. Deep gland follower in stuffing box. Ten sizes from ½" to 3".



Model P-2654 for TANK TRUCKS

Milvaloy. Rising stem, double-disc type. Bolted bonnet. Square or round flanges. 2", 2½", 3", 4" and 6" sizes.

Models P-2680 and P-2685 for BULK STATIONS

Bronze. Stemlock type. Screwed or flanged. Lock prevents stem from turning. May be packed under pressure when wide open. Available in 1½", 2", 2½", 3" sizes.

the only line with weight-saving MILVALOY

MILVALOY weighs only ⅓ as much as bronze, yet sets new standards for rugged dependability. Strong, chemically-resistant, non-sparking MILVALOY products are ideal for any oil handling operation.

Write for your copy of our complete catalog of valves and fittings for the oil industry.

MILWAUKEE VALVE COMPANY

A Subsidiary of A-P Controls Corporation

2377 South Burrell Street, Milwaukee 7, Wis.

MILVACO

THE MARK OF PERMANENT QUALITY

the fewer lines they handle. He urged that the group be conscious of the effect that increased operating costs have had in diminishing profits and advocated the substitution of positive selling for price concessions. "Almost any customer will pay the fair price you ask," Schramm concluded, "if you tell him why he's getting much more for the money you're asking."

The next annual meeting of the Association is to be held in Pittsburgh, Pa., September 23 to 25, 1956. The 1957 convention will be in Memphis.

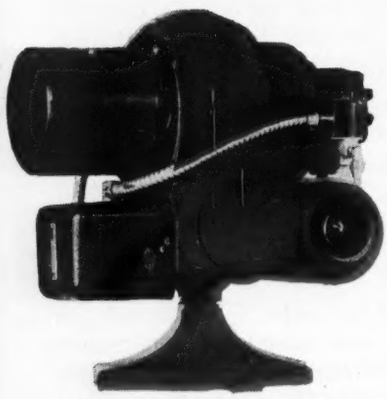
Third get-together *of the Dadson Club took place in New York on September 21. Here are the fathers and sons active jointly in oilheating who attended the affair, which consisted of a dinner at the Hotel Concourse Plaza and then attendance at the Marciano-Moore fight at Yankee Stadium. In the picture the fathers stand in the back row, with their sons in front of them, as follows:*

From left to right: John and Clayton Conards, Trenton, N. J.; Harold and Charley Valentine, New York; Henry, Henry, Jr., Eddie and Frank Baerenklau, Brooklyn; Larry Murphy and Larry, Jr., Jamaica, N. Y.; Frank, Henry, Carlton Wymbs and Frank, Jr., Bronx, N. Y.; Sid and Steve Harvey, Valley Stream, N. Y.; Herb and Bob Helman, Brooklyn, N. Y.; Hans and Murray Lieblich, New York, N. Y.; Dan and Arty Bierman, Long Island City, N. Y.

THIS IS IT!

KORTH SHELL HEAD

The Most Advanced Design in Combustion Head Oil Burners



MODEL SR-SH
AVAILABLE IN TWO SIZES
.75 to 1.65 GPH
1.65 to 3.0 GPH
saves up to 25% on fuel!

• JUST 3 SIMPLE ADJUSTMENTS All made externally while the burner is operating. Permits easier and more accurate setting — provides more flexibility to meet varying field conditions.

NEW! Now only 1 simple oil line connection—at the rear of the burner.

NEW! Heavy cast iron round pedestals on all shell head Korth burners.

Install one on that next job!

Send for New Low Prices and Your Copy of Complete Catalogue

SILENT KORTH OIL HEAT
"Seal of Quality"

ECKHART MFG. CO., INC.
UNION, NEW JERSEY

Canadian Distributor
Dragon Heating Co., Ltd.—2110 Rue Clark, Montreal

Six OHI Chapters approved for Membership by Directors

SIX NEW CHAPTERS were formally approved for membership in the Distribution Division of the Oil-Heat Institute of America, Inc., by the board of directors when they met in Atlantic City, September 29 and 30.

These chapters will bring about 600 member firms into the Division. The new chapters are Oil Heat Institute of Northern Nevada, Oil Heat Institute of Southern Idaho, Oil Heat Institute Division of the Iowa State Independent Oil Jobbers Association, Oil Heat Chapter of the North Carolina Oil Jobbers Association, Oil Heat Institute of Columbia County (N. Y.), Oil Heat Institute of Lawrence County (Pa.).

In addition a Membership Policy Committee was appointed to reorganize the geographical membership chapter setup. It is anticipated that the Dis-

Generals COVER THE FIELD

For Full-Line Heating Profits!

HUMIDIFIERS

JUST INTRODUCED!

Two-Piece
MODEL 250

The most unique warm air furnace humidifier ever offered! Eliminates plates, overflow lines, floats and needle valves. Nothing to stick, clog or cause trouble! Hydro-Flow Regulator filters, measures and replenishes water as it evaporates from separate pan — mounted on heat exchanger where air is hottest. Recommended for large capacity furnaces and for deluxe humidification.

Unit Type
MODEL 200

This new unit-type warm air furnace humidifier requires the *smallest* plenum opening of any humidifier on the market — just 3¼"x3⅝"! An exclusive leveling feature automatically adjusts balance, water level and line pressure of the "200"—in straight or sloping plenums. Installation time is reduced to a minimum! Porosil "porous weave" ceramic evaporating plates resist calcifying action and contain better capillary qualities than any other known material.

FUEL OIL FILTERS

MODEL 1A-25A

Small Homes, Space, or Water Heaters
- Step-Design Wool Felt Cartridge
- Cast iron cap, steel bowl
- 3⅝" dia. — 5⅛" high
- 41 sq. in. filter unit surface
- ⅜" or ¼" pipe openings

MODEL 2A-700A

Average Size and Large Homes
- Step-Design Wool Felt Cartridge
- New, improved leakproof seal
- 4⅜" dia. — 6½" high
- 83 sq. in. filter unit surface
- ⅜" or ½" pipe openings

MODEL 2A-300

Deluxe Filter for Extra Dirty Tanks
- Metal encased, "depth type" cartridge
- Big 63 cu. in. filter unit surface
- Leakproof screw-type steel handle
- 5½" dia. — 9⅛" high
- ⅜" pipe openings

MODEL 2A-17

Heavy Oils Nos. 4, 5, or 6
- Cleanable Monel mesh screen
- Lifetime cap-bowl construction
- Economy of using heavy oils
- Single bolt assembly
- Gravity or pressure type burners

HEATING ACCESSORIES

CLEAN RIGHT SOOT REMOVER

For Any Heating Plant — Oil, Gas, Coal or Wood
Cuts heating costs as much as 25% by removing up to ½" layer of soot in 2-5 minutes without flash or intense heat. Non-corrosive, non-explosive. Simple and inexpensive to use. Complete directions on package.

MODEL 90 WATER TRAP

Designed for bottom or side outlet fuel oil storage tanks. Removes water from oil before it reaches filter; protects filter, nozzle, and pump. Contains interchangeable ⅜" inlet-outlet and ¾" threaded brass drain plug.

OUTSTANDING PRODUCTS OF

GENERAL FILTERS, INC.
43800 Grand River Avenue, Novi, Michigan
In Canada: Canadian General Filters, Ltd., 39 Crockford Blvd., Scarborough (Toronto 16), Ontario

tribution Division will be divided into six or seven regional areas, each with a regional vice-chairman who will be a member of the Division's Board of Directors.

Brooklyn fueloil Co-operative celebrates its 7th Anniversary

MORE THAN 300 fueloil dealers and friends attended the annual dinner and dance of the Fuel Oil Merchandising Co-operative, Inc., Brooklyn, N. Y., October 15.

The affair was held during Oil Progress Week and celebrated the group's seventh anniversary. Seated from left to right at the head table were Mrs. Loughran; Fred J. Loughran, Commissioner of Weights and Measures for New York City; Mrs. Harry Kerner; John Scovell, past president; Harry Kerner, executive secretary; Mrs. Chionchio, Michael Chionchio, president; Mrs. Mongiello; and Frank Mongiello, vice-president.

Oil Heat Association is formed in Minneapolis; Officers named

A NEW OIL HEAT ASSOCIATION has been formed in Minneapolis, Minn. Since the dissolution of the Twin City Petroleum Club there has been no organization for the oilheating industry in the area.

R. C. Harmann, Shell Oil Co., was elected president; C. W. Johnson, Western Oil & Fuel Co., vice-president and Al Defiel, Superior Refining Co., treasurer. H. F. Horning, Northwest Petroleum Association, is secretary.

Washington OHI to take over new office Space in Seattle

THE OIL HEAT INSTITUTE of Washington moved into new offices recently. The new address for the organization is 400 Dexter Ave., Seattle.

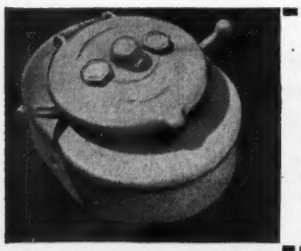
Open house ceremonies will be held as soon as redecorating of the premises is completed.

Membership of the Washington OHI now totals 250, according to Elgin E. Pritchard, assistant to the managing director.

FOR QUICK-OPENING, TIGHT-CLOSING, POSITIVE-LOCKING MANHOLES

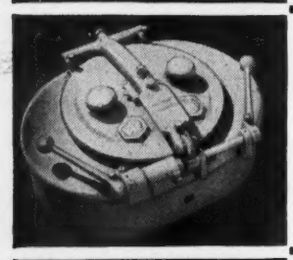
SPECIFY "Manholes by Philadelphia Valve"

no matter who builds your tank trucks



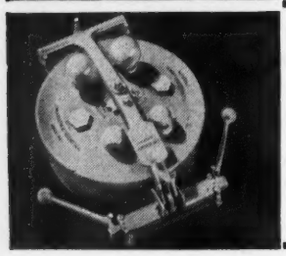
Standard Manhole

Size 12" x 16" with 6½", 8", or 10" fill opening. A slight turn of locking ring opens and closes cover.



Self-Closing Manhole

Size 12" x 16" with 10" fill opening. Self-closing, with positive locking device. Opened by raising lever on either side.



14" Diameter Self-Closing Manhole

For heavy fuel-oil tanks. Self-closing, with positive locking device. To open, lift either lock arm and raise cap.

Write the words "Manholes by Philadelphia Valve" into your order. These quick-opening manholes are absolutely tight. They surpass every fire underwriter's standard. They open and close easily and quickly. They are built to outlast the tank.

Each type of manhole is simple, strong, and foolproof. Covers are leakproof. Covers and plugs are of malleable iron or heat-treated aluminum. No cast iron is used. "5-in-1" vents automatically close if truck upsets, and will release under 6 lbs. pressure to prevent explosion in case of fire. Gaskets are easy to keep tight.

Philadelphia Valve manholes are standard with many major oil companies from coast to coast. Make them standard on *your* tank trucks, too!

Send for catalog 170 for descriptions and engineering drawings of all Philadelphia Valve Company products.

PHILADELPHIA VALVE COMPANY

3413 Aramingo Avenue, Philadelphia 34, Pa.

Pacific Coast Distributors:

Oil Marketing Equipment Co., 325 Fremont Street, San Francisco 5, California
Howard Supply Co., 5125 Santa Fe Avenue, Los Angeles 11, California

TWO WAYS TO LOOK AT THE WHITE 3000

...and they both add up to *EXTRA* earning power

FROM THE DRIVER'S SEAT:

"I drive a White 3000 in heavy Chicago traffic with lots of "stop-and-go" miles. What I especially like about driving the "3000" is the maneuverability and steering ease. Visibility is excellent.

"The cab is comfortable and it drives like a passenger car. It has what it takes regardless of how many miles it has been driven, year after year. Another advantage shows up on preventive maintenance and inspection. There's much less downtime because of the power-lift cab."

Sam Hanna
Driver
TRANSPORT SERVICE CO.
Chicago, Ill.

FROM THE OPERATOR'S DESK:

"There's an outstanding payload advantage in the White 3000 for petroleum transporters. We're constantly looking for ways to increase our payload—we get about 2,000 additional pounds legally because of the White weight distribution and favorable dimensions.

"We are hauling about 100 different liquid products in the Chicago area to bulk stations or retail outlets. We are tremendously impressed with the ability of the Whites to stand up under the rough city traffic, for more years than other makes."

John V. Crowe, Jr.,
Vice President
TRANSPORT SERVICE CO.
Chicago, Ill.

This White Model 3024 PLT has 110 inch wheelbase, 10.00 x 20 tires, 6,000 gallon tanker.

***FIRST*—IN THE FIELD**

White 3000

PROVED IN BILLIONS OF LOW-COST MILES

THE WHITE MOTOR COMPANY
Cleveland 1, Ohio

FOR MORE THAN 50 YEARS THE GREATEST NAME IN TRUCKS

fueloil & oilheat

ESPA has annual Fall Meeting at New York Resort, Oct. 30

WORKSHOP SESSIONS featured the annual fall meeting of the Empire State Petroleum Association at the Concord, Lake Kiamesha, N. Y., October 30 through November 2.

At a session on credits John H. Corcoran, Mid-Hudson Oil Co., Poughkeepsie, discussed some credit problems associated with fueloil. Raymond F. Kraemer, consultant, Mineola, was moderator of the meeting.

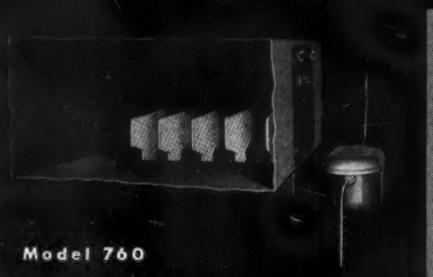
Another panel considered liquid fertilizers. E. C. Drake, Drake & Mills Oil Co., Syracuse, was moderator. John F. Cornman, Cornell University and Clifford J. Bissler, Lewis Oil Co., Port Washington, were on the panel.

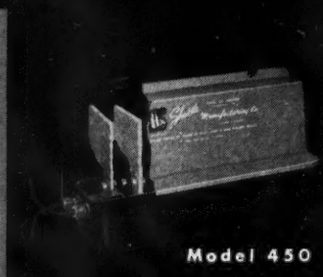
A discussion of general interest to fueloil dealers was a workshop session on the economic impact of the St. Lawrence Seaway on the petroleum price structure. Thomas A. Brown, Sentinel Oil Co., New Rochelle; Sidney C. Sufrin, Syracuse University; C. W. Dole, Socony Mobile Oil Co.; William E. Cleary, The American Waterways Operators, Inc.; and George L. Robinson, Pipeline Co., took part.

The growth of LP-Gas was examined by Harry B. Hilts, ESPA secretary; Charles Turner, Fuelane Corp.; John F. Scozzafava, Port Henry Oil Co., Port Henry; and S. A. Whitaker, Shay Oil Co., Penn Yan.

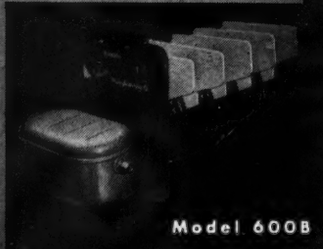
The officers and staff of the Association had prepared a full schedule of entertainment, featuring golf and the annual banquet at which J. A. Miller, Esso, and George Alexander Bowie, Firestone Tire & Rubber Co., spoke.

ONLY Skuttle has humidifiers for every type heating plant



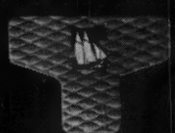


Stock Skuttle's complete line, have a humidifier for every type heating plant. With Skuttle humidifiers you have more features to offer customers, too.



Skuttle features make selling easier

- ☆ Up to 912 sq. in. of evaporating area with Vapoglas plates.
- ☆ Maintain lower pan temperatures. Less lime in water and less clog.
- ☆ Complete all-over air flow on plate surfaces means more moisture output.
- ☆ Attractive design in rich colors.
- ☆ Easily installed in quick time.



For details, write:

Skuttle MANUFACTURING COMPANY
MILFORD, MICHIGAN

Greater moisture output with patented VAPOGLAS plates

Statewide Meeting is held by Oregon OHI in Gearhart

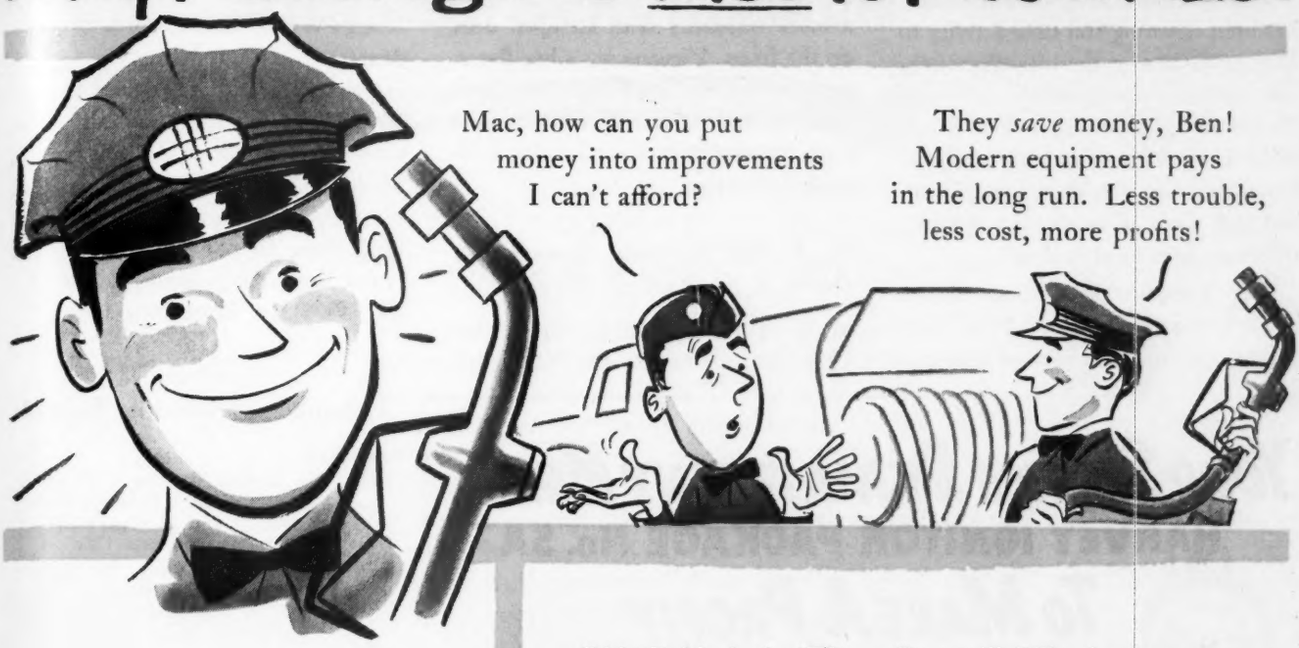
THE ANNUAL statewide meeting of the Oil Heat Institute of Oregon was held at Gearhart, Ore., September 16-18. Business sessions featured Norman Davis, Portland; Hall Shawlee, Western Oil and Gas Association, and Don Critchley.

Social activities included a golf tourney in addition to an evening buffet

Mrs. John P. Miller, *Blue Point, L. I., is awarded a portable television set by Patrick F. Caputo, president, Oil Heat Institute of Long Island, Inc. She won the "name-the-little-man" contest sponsored by the group during October.*

She christened the emblem "Little Bill" and gave as her reason: "I like oil heat because it is so dependable, clean and economical (little bill)." Her supplier, Saunders Fuel, Inc., Bayport, gave her 200 gallons of heating oil in honor of her winning the contest.

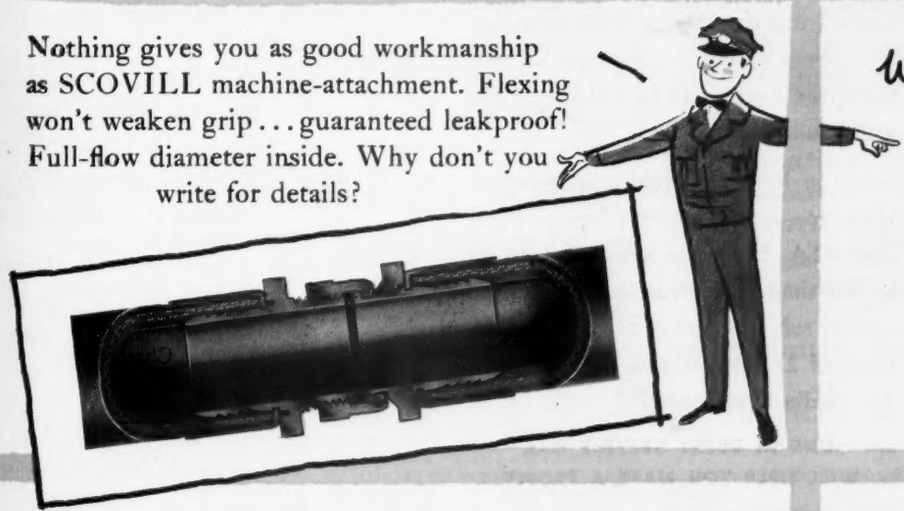
Why MacGregor is wise to Modernize!


Mac, how can you put money into improvements I can't afford?
They *save* money, Ben! Modern equipment pays in the long run. Less trouble, less cost, more profits!

How about your permanently attached hose couplings? How do you save when you can't reattach 'em to new hose?

Old "Behind-the-Times Benny!" Why bother reattaching couplings? Today's hose is as tough as the couplings. Ask your supplier about SCOVILL couplings . . . for low initial cost and no upkeep!

Nothing gives you as good workmanship as SCOVILL machine-attachment. Flexing won't weaken grip . . . guaranteed leakproof! Full-flow diameter inside. Why don't you write for details?



Write for Bulletin 520-H

Get specifications on fuel oil and distillate hose couplings:
Scovill Manufacturing Co.
Merchandise Division
88 Mill Street
Waterbury 20, Conn.

SCOVILL *Couplings*

A product of

SCOVILL

fueloil & oilheat

supper and a banquet on the last day of the meeting.

Dale Josephson, executive secretary, has been devoting full time activity to field promotion of the OHI advertising and membership expansion program. He has visited meetings in Hood River, Wasco, Umatilla, Yamhill, Washington, Clark, Cowlitz, Linn, Lane, Douglas and Coos Counties to conduct meetings with local dealers.

The Oregon Association has a booth featuring "Miss Oil Heat" that has been exhibited at various fairs and expositions in the area. A special lens and mirror give the effect of a live girl in an oilburner. The booth features a mock oilburner with an open duct on the front. Viewers see a live flame, and a living talking girl only six inches high. When questioned, the girl gives a strong sales story for oilheating with modern burners.

N. Y. Oil Heating Association elects J. L. Farrell President

AT A RECENT meeting, officers for 1956 were elected by the New York Oil Heating Association, Inc. Joseph L. Farrell, Island Petroleum Co., Flushing, succeeds Fred W. Heaney, Skaggs-Walsh, Inc., Astoria, as president.

Other officers are Albert Evans, Kleen Heet Oil Co., Inc., Brooklyn, vice president; Joseph A. Ross, Jr., Modern Utilities Engineering Co., New York, treasurer; Clyde O. Caldwell, Esso, Brooklyn, secretary; and Frank Baerenklau, Baerenklau & Co., Inc., Brooklyn, sergeant-at-arms.

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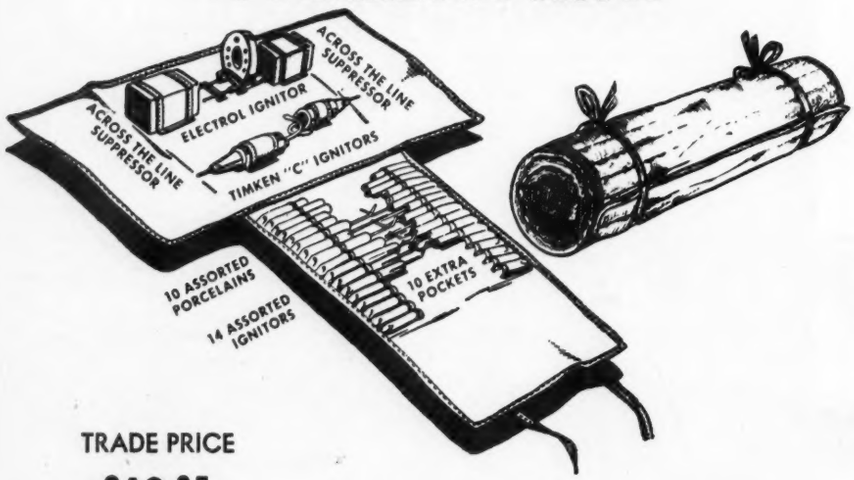
YOUR SERVICE DEPARTMENT NEEDS
HARVEY IGNITOR PACKAGE No. 5A
TO MAKE A PROFIT



TRADE PRICE
$16.95

Ignitors are one of the least expensive replacement parts . . . but can be very expensive if you don't have the right one with you.

You can have the right one with you when you have a Harvey Ignitor Package #5A. Eliminates expensive returns to the shop. Easily carried, too—fitted canvas roll, contains a practical assortment of 27 Ignitors and Porcelains plus two Radio Suppressors.

ONE IN EVERY SERVICE CAR WILL HELP YOU MAKE A PROFIT.

See Sid Harvey's 240 page catalog for other ignitors. They are all there. Write for catalog on your business letterhead.

It's a gold mine of information on service parts of all kinds.

SID HARVEY INC.
VALLEY STREAM, NEW YORK

Calendar of coming Events

NOVEMBER

28-Dec. 1—Air Conditioning & Refrigeration Institute, (9th Air Conditioning and Refrigerating Exposition), Atlantic City, N. J.

30-Dec. 1—National Warm Air Heating and Air Conditioning Assn., (42nd Annual convention), Hotel Statler, New York, N. Y.

DECEMBER

5- 6—Institute of Appliance Manufacturers, (Year End Conference), Netherland Plaza, Cincinnati, O.

8- 9—American Petroleum Institute, OIIC meeting, Biltmore Hotel, New York, N. Y.

JANUARY

9–10—Kansas Oil Men's Assn. (annual meeting), Baker Hotel, Hutchinson, Kans.

10–12—Kentucky Petroleum Marketers Assn., (Annual Meeting), Brown Hotel, Louisville, Ky.

12—South Carolina Oil Jobbers Assn., (Annual Meeting), Hotel Columbia, Columbia, S. C.

22–26—National Assn. of Home Builders, (annual convention and exposition), Conrad Hilton, Sherman Hotels and Coliseum, Chicago, Ill.

25–26—Northwest Petroleum Assn., (Annual Convention), Nicollette Hotel, Minneapolis, Minn.

FEBRUARY

2- 3—Sheet Metal & Warm Air Heating Contractors' Assn. of Indiana (Convention), Hotel Severin, Indianapolis, Ind.

22–23—Iowa Independent Oil Jobbers Assn., Inc., (Convention), Fort Des Moines Hotel, Des Moines.

27–29—Missouri Petroleum Assn. (annual meeting), Chase Hotel, St. Louis, Mo.

MARCH

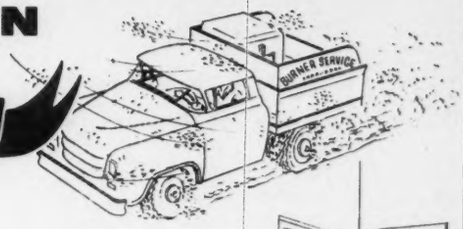
7- 8—Wisconsin Petroleum Assn. (annual meeting), Hotel Schroeder, Milwaukee.

15–17—Texas Oil Jobbers Assn. (annual meeting), Statler-Hilton Hotel, Dallas.

20–22—Ohio Petroleum Marketing Assn., Inc. (spring convention and exposition), Deshler-Hilton Hotel, Columbus.

GULF PROUDLY SALUTES THE NATION'S BURNER SERVICEMEN

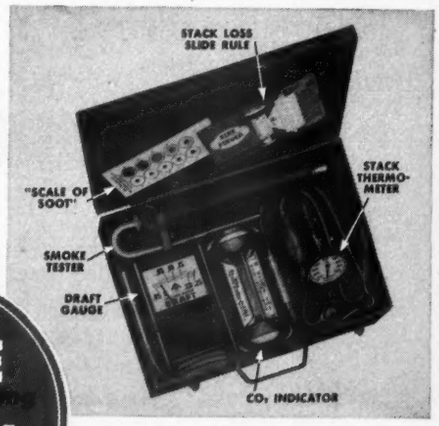
"They keep the home fires burning."



A great deal of credit for the growth and progress of oil heating belongs to that army of skilled workers who maintain and service the nation's oil heating plants. Often regarded as the industry's unsung heroes, the burner service men are indispensable to its success; for theirs is the job of keeping the equipment operating efficiently — with a minimum of heat interruptions for the homemaker. Our hat's off to all those engaged in this vital service work. We are proud to be associated with them in the great team effort of keeping automatic oil heating out front with America's homemakers.

GULF OIL CORPORATION • GULF REFINING COMPANY

GULF
SOLAR HEAT
heating oil



The FYRITE UTILITY KIT

... PACEMAKER FOR PROFITS from Expert Tune-up Service

Making the most of your ability to do an expert tune-up job will pay you big dividends in gaining you competitive leadership and neighborhood recognition of your competence as a heating expert. The combustion-testing kit shown here contains precision-made quality instruments with which you can make fullest use of your know-how in making a fuel conservation survey, checking a burner for wornout parts and needed repairs, or running an efficiency test to close a replacement deal.

The kit contains the well-known FYRITE CO_2 Indicator, the versatile MZF Draft Gauge, the all-metal TEMPOINT Stack Thermometer and the sensationally new TRUE-SPOT Smoke Tester. Now, for the first time, you can adjust an oil burner quickly and expertly for highest CO_2 without objectionable smoke . . . do away with guesswork, and "hit and miss" fumbling in adjusting for clean firing. The "Scale of Soot" which comes with the TRUE-SPOT tells you the limits of permissible smoke for various burners and types of heating systems. This amazingly simple method of oil burner adjustment is the greatest advance in combustion testing since the introduction of the FYRITE. You will be proud to be among the first to own this "up-to-the-minute" combustion-testing kit.

For complete information on this and other new tune-up equipment— write for Bulletin 777

BACHARACH INDUSTRIAL INSTRUMENT COMPANY

7301 PENN AVENUE • PITTSBURGH 8, PA.

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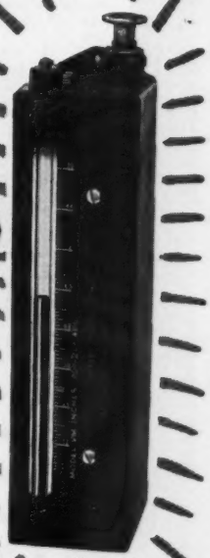
new!

KECO

Remote-Reading TANK GAUGE
For Oil and Gasoline



- Versatile!
- Attractively Priced!
- Economical to Handle!
- Minimum Dealer Inventory!

FREE BULLETIN shows why the Keco gauge is a natural for users, distributors and dealers alike. Write Today!

KING ENGINEERING CORP.

Box 410 • Ann Arbor, Mich.

MANUFACTURERS OF GAUGING EQUIPMENT FOR OVER 30 YEARS

fueloil & oilheat

Manufacturers' Activities

Lennox Furnace will change Name to Lennox Industries

EFFECTIVE December 31, the Lennox Furnace Co., Marshalltown, Ia., will change its name to Lennox Industries, Inc.

John W. Norris, president, said that the company's wide diversification of products and services dictated a more encompassing title. "Since a number of other furnace manufacturers have merged with some of the country's largest industries in recent months," he continued, "there may be speculation that this change in name means that Lennox Furnace Co. is merging with some other organization. I want to emphasize that this is not the case. The only change will be in the wording of the name."

The company was formed back in 1895 and today has achieved a position of prominence in the industry as a manufacturer of warm air furnaces and central airconditioning.

Early in its history Lennox started building steel furnaces which was the start of the Lennox Torrid Zone coal furnace—a basic design so sound that the body and heat exchanger remain much the same in today's models.

D. W. Norris was the founder of the company and it was under his direction that the company expanded to the point that it was selling furnaces on both coasts. Lennox started early to help its dealers plan heating installations, and that program evolved into Plan Engineering Departments and Dealer Service Schools, which are in effect today.

The president of Lennox and son of its founder, John W. Norris, was the creative force behind the first warm air furnace designed exclusively for the use of oil as a fuel. He also engineered the "wrap-around" heat exchanger and the quiet floating blower for forced air heat.

Today Lennox merchandises its equipment through an organization of more than 5000 dealers. Ten production plants located throughout the United States and Canada provide the units.

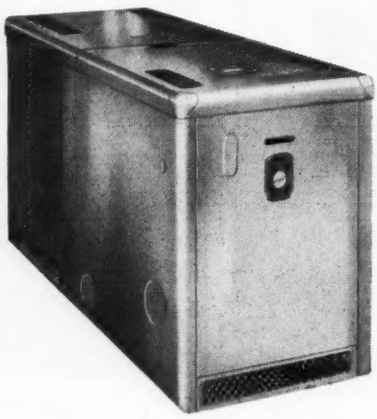
BETHLEHEM DYNATHERM • BETHLEHEM DYNATHERM

DYNATHERM • BETHLEHEM • DYNATHERM • BETHLEHEM

You have LESS COMPETITION MORE PROFIT when you sell

Bethlehem DYNATHERM

The Bethlehem DYNATHERM offers exclusive features not found in other package units on the market . . . such as the "Whirling Flame" the secret of its amazing performance. Then too, the Bethlehem DYNATHERM costs amazingly little more than converting an old boiler. What's more, the Bethlehem DYNATHERM gives your customers more for their money in fuel economy—savings up to 40% and even more have been reported after replacement of old oil burner, regardless of make, with the Bethlehem DYNATHERM. The Bethlehem DYNATHERM is completely assembled and tested at the factory, thereby reducing installation cost, and assuring dependable, uninterrupted service. Yes, the Bethlehem DYNATHERM gives you more to offer . . . in fuel economy, in compactness, comfort and convenience!



This is YOUR OPPORTUNITY to become a member of the BETHLEHEM family! Fill out and return the coupon today!

DYNATHERM • BETHLEHEM • DYNATHERM • BETHLEHEM

BETHLEHEM FOUNDRY & MACHINE CO.
225 W. Second St., BETHLEHEM, PENNA.

Please send us complete details concerning the Bethlehem Dynatherm Franchise.

NAME .....

ADDRESS .....

CITY .....ZONE .....STATE .....

Sid Harvey executive Board approves of expansion Plan

SID HARVEY, chairman of the Board of the Associated Sid Harvey Companies, Valley Stream, N. Y., announced that the executive board has approved of an expansion program during the next two years.

The company now has 38 stores in the East and will establish additional stores to serve key areas not covered now.

Expansion Program is planned by Chrysler Airtemp Division

AN EXPANSION PROGRAM which will cost in excess of $2,000,000 has been announced by the Airtemp Division, Chrysler Corp., Dayton, O.

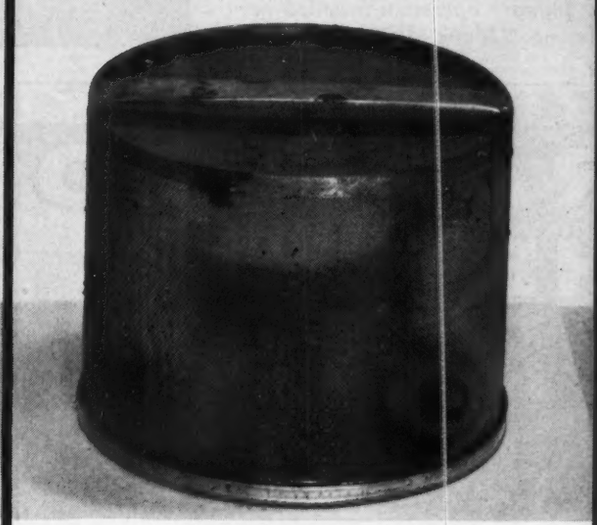
Part of these funds will be invested in a tooling job to produce a new line of furnaces for low cost homes. A production line for the manufacture of car airconditioner compressors and the retooling of existing waterless

You can prevent screen clogging, tank rusting and color breakdown with Monsanto's fuel oil additives

ORDINARY UNINHIBITED FUEL OIL

Gummy fuel oil sludge and sediment clog screen after only two-hour circulating pump test. Result: oil burner parts operate less efficiently, causing eventual breakdown.

SAME FUEL OIL WITH SANTOLENE H



Screen remains clean after two-hour circulating pump test. Santolene H keeps burner parts working smoothly, more efficiently by preventing progressive polymerization of unstable elements in the oil.

Good fuel oils are made better with Monsanto's fuel oil additives.

Refiner-distributor cooperation means satisfied customers . . . more profits.

SANTOLENE H. In addition to alleviating sludge and sedimentation, Santolene H also:

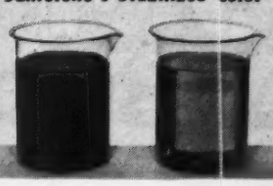
- **Overcomes screen clogging.**
- **Eliminates fogging** and line freeze-up caused by fuel oil-water emulsions.
- **Keeps burner parts clean.** Surface action prevents particles from settling.
- **Inhibits tank rust.** Forms protective coat on tank and other metal surfaces.

SANTOLENE J. A fine quality fuel oil additive designed to:

- **Stabilize color.** Prevent formation of color bodies.
- **Reduce sediment formation.** Prevent agglomeration of insoluble color bodies.
- **Inhibit rust.** Prevent formation of water haze or stable emulsions.

Santolene: Reg. U.S. Pat. Off.

Santolene J Stabilizes Color



In test, ordinary untreated fuel oil (left) and the same fuel oil containing Santolene J (right) were baked at 110° for 12 days. Result: Fuel oil with Santolene J held original color and clarity; no sediment formed. Untreated fuel oil clouded with sediment, and lost color.

For information on Santolene H, J, and F, write Organic Chemicals Division, MONSANTO CHEMICAL COMPANY, Box 478-Z-4, St. Louis 1, Missouri.

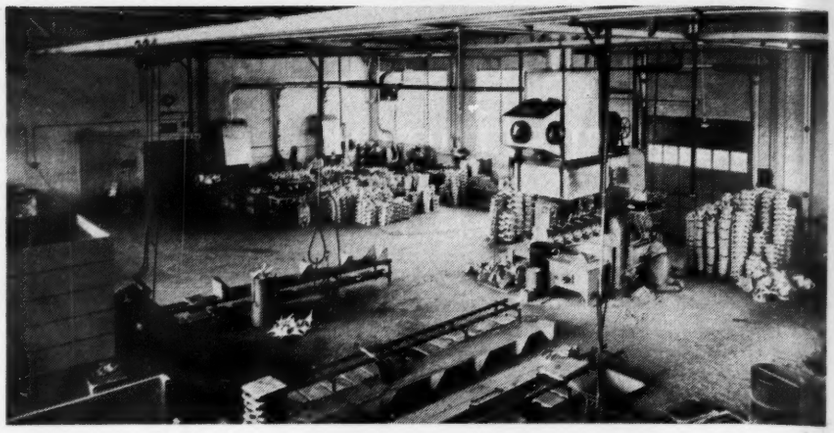
MONSANTO
CHEMICALS — PLASTICS

SERVING INDUSTRY . . . WHICH SERVES MANKIND

airconditioner production facilities is also on the agenda.

The construction of a plant addition, which will contain 63,000 sq. ft. of floor space, will be begun immediately.

. . . . . .



A new plant *providing 40% more floor space has been recently completed by Nu-Way Corp., Rock Island, Ill., according to William F. Klockau, president. Shown here is part of the six-molder foundry operation installed in the new Milan, Ill., plant.*

Fast venting **GORTON VALVES** make radiators heat quickly and evenly with ounces of vapor instead of pounds of pressure.

By installing correctly sized **GORTON VALVES,** air is quickly vented, permitting radiators to heat properly. Available in 5 sizes for proper venting and balancing of each radiator, and two sizes for venting mains. There is a **GORTON VALVE** that's just right for every radiator.

SEND TODAY FOR

Literature and free handy ruler giving actual sizes of air outlets of fast venting GORTON VALVES for every steam heating system.

GORTON HEATING CORPORATION
Cranford, New Jersey

ASK YOUR WHOLESALER

Williams Division appoints Gleason manager of Sales

APPOINTMENT OF J. M. Gleason as sales manager, Williams Division, Eureka Williams Co., Bloomington, Ill., has been announced by H. J. Allemang, executive vice president. Gleason joined the company in 1950 and has been assistant sales manager.

Three new regional sales territories were also announced by Allemang. Named to head the regions, beginning January 1 are the following: Frank Mills becomes manager for the region covering Iowa, Missouri, Nebraska, Kansas, North and South Dakota, Minnesota and Colorado.

Pete Obee becomes manager for the Western region covering Washington, Oregon, Montana, Idaho, Utah, Wyoming, Nevada and Northern California. C. G. Branch heads the Midwest region with responsibility for Illinois, Wisconsin, Michigan, Indiana, Ohio and Kentucky.

Divisions of Indiana Companies acquired by Commercial Filters

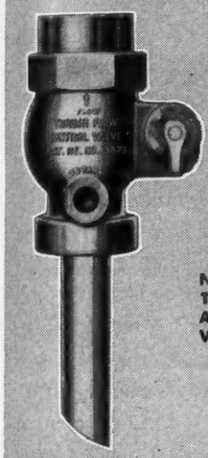
COMMERCIAL FILTERS CORP., Melrose, Mass., in line with its policy to expand its filter lines, has acquired the filter divisions of two Indiana companies: Houdaille-Hershey of Indiana, Inc., Lebanon and Michiana Products Corp., Michigan City.

According to Robert L. Fielding, president, the company will now produce a complete line of filtration equipment for the petroleum, chemical, diesel and industrial fields. Commercial Filters is a wholly owned subsidiary of Ogden Corp., New York.

THRUSH WATER CIRCULATOR

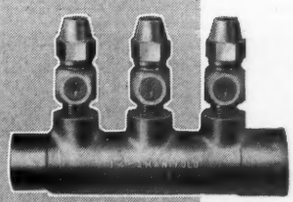
THRUSH *Simplifies*

INSTALLATION OF HOT WATER HEAT

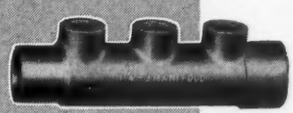


NO. 5. THRUSH AIR VENT VALVE

THRUSH FLOW CONTROL VALVE WITH AIR TUBE



THRUSH RETURN MANIFOLD WITH BALANCING VALVES



THRUSH SUPPLY MANIFOLD

THRUSH TANK DRAIN

New improvements, new developments by Thrush, year after year, for more than a quarter of a century, have helped simplify installation of hot water heat, reduced labor and improved efficiency while reducing the cost. Thrush has helped make possible today's compact and efficient hot water heat.

FORCED CIRCULATION . . .

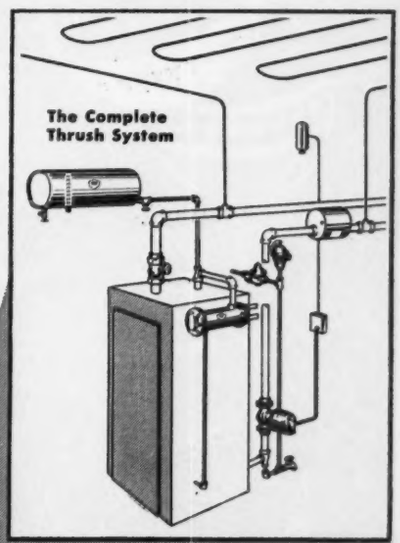
Thrush Circulators, first developed nearly thirty years ago, provide the finest and most dependable means of forced circulation at low cost. This permits the use of smaller pipe, valves and fittings, and has improved tremendously the flexibility and efficiency of hot water heat.

AIR ELIMINATION . . .

Forced circulation combined with flow control and automatic air elimination was the next great forward step. Thrush combines a simple, positive flow control valve with an air tube to lead air from boiler to Pressure Tank. One unit does the work of two. The automatic Thrush Air Vent Valve for radiators and baseboards is highly efficient and absolutely dependable.

SIMPLIFIED PIPING . . . EASIER BALANCING . . .

Another Thrush development is the Manifold which eliminates extra fittings and labor . . . improves piping design of radiant panel systems. Thrush Balancing Valves used in the return Manifold save time in balancing coils and assure better heating performance.



EASY TO DRAIN SYSTEM . . .

Two other Thrush ideas simplify your work. The Thrush Pressure Tank has a built-in Vacuum Breaker that simplifies draining the system. The Thrush Tank Drain illustrated here accomplishes the same thing with older tanks . . . easily, inexpensively. Ask for a Thrush Catalog showing these and many other time- and labor-saving devices.

See your wholesaler for more information or write Dept. C-12

H. A. THRUSH & COMPANY

PERU, INDIANA

Stockholders approve of name Change for Williamson Heater

AT A RECENT MEETING stockholders of the Williamson Heater Co., Cincinnati, O., approved changing the company name to The Williamson Co.

Because the company now manufactures airconditioning equipment, as well as other products not related to heating and cooling, it was decided to broaden the implication of the name.

The company was incorporated in 1890 as the Bennet and Peck Heating and Ventilating Co. In 1894 it became the Peck-Williamson Heating and Ventilating Co., and in 1914 was renamed the Williamson Heater Co.

Williamson has plants in Cincinnati and Madison, Ind., manufacturing residential heating and cooling units and duct, pipe and fittings.

Perfex Controls now available from General Controls Outlets

OILBURNER CONTROLS made by the Perfex Division now are available through the seven regional warehouses and 40 branch offices of General Controls, Glendale, Calif.

Among the controls is the PerfXray which is adaptable to all pressure type burners. The unit is factory installed and eliminates stack mounting.

Sette Products Co. will be Name of Marquart Mfg.

EFFECTIVE JANUARY 1, 1956 the Marquart Manufacturing Co., Oakland, Calif., will change its name to Sette Products Co.

According to E. F. Sette the new name is more appropriate. The company manufacturers the line of Sette Microstone fueloil filters for small, medium and large installations.

Burnham Corp. President is interviewed on TV Program

BURNHAM CORP., Irvington, N. Y., was featured on the television program, "Operation Success," on Station WRCA-TV, November 5. Burnham Bowden, president, was interviewed by Quentin Reynolds, war correspondent and lecturer.

The program traced the company's progress from a manufacturer of greenhouses in 1856 to its present position in the heating industry.

Kewanee-Ross Corp. becomes American Standard Divisions

KEWANEE-ROSS CORP., wholly owned subsidiary of American Radiator & Standard Sanitary Corp., Pittsburgh, has been dissolved as of November 1. Two new American-Standard operating divisions will be formed to continue Kewanee-Ross operations.

The Kewanee Boiler Division will manufacture the Kewanee boilers, and the Ross Heat Exchanger Division will produce heat exchangers, surface condensers and allied products.

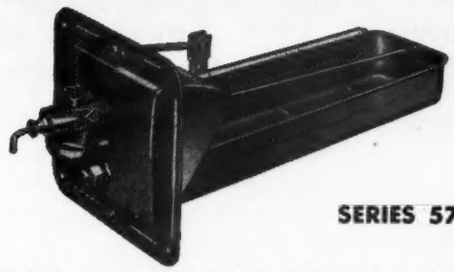
W. B. Russell, Kewanee-Ross president, has been named president of the Kewanee Boiler Division; E. M. Palmer is executive vice-president. John C. Linsenmeyer has been named president of the Ross Heat Exchanger Division with Richard S. Reade as executive vice-president. Linsenmeyer is president of American Blower Corp., a division of American Standard.

COMPLETELY ASSEMBLED

Vaporite

AUTOMATIC HUMIDIFIER

OFFERS QUICKEST – FASTEST INSTALLATION
ADJUSTABLE TO SLOPING OR STRAIGHT BONNET FURNACES



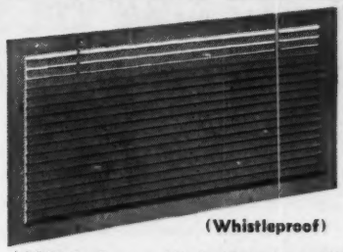
SERIES 577

Stainless steel construction. Drip-feed puts just enough water in pan for fastest vaporization. Eliminates scum . . . no stagnant water pan.

Pre-assembly cuts labor time and costs. To install simply cut hole in plenum wall, slip VAPORITE in just as it comes from shipping package.

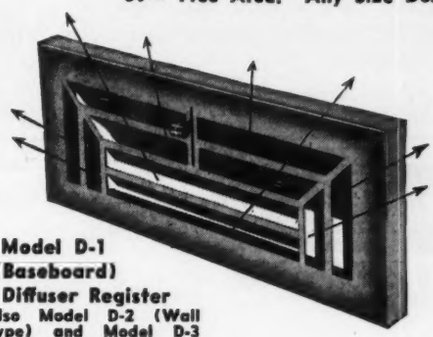
Get complete information. Write FO-12

Automatic Humidifier Co.
CEDAR FALLS, IOWA



(Whistleproof)

MODEL R — High Velocity, High Efficiency Return Air Grille.
89% Free Area. Any Size Desired.



SIZES:
10x4 12x4 14x4
10x5 12x5 14x5
10x6 12x6 14x6

Model D-1
(Baseboard)
Diffuser Register
Also Model D-2 (Wall Type) and Model D-3 (Out-of-Wall Type)

Besides Diffuser Type registers the National Line includes all types and sizes of registers and grilles. **Write for Catalog.**

National GRILLE AND REGISTER CO.
3169 East 80th Street Cleveland 4, Ohio

"ECHO"

(whistling)

VENT SIGNAL

Pat. in Canada—U.S. Pat. Pend.

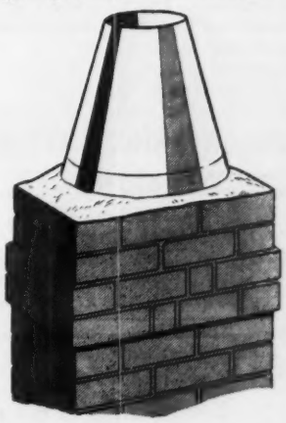
- . . . Costs Less
- Installs Easier
- 50% Less Stock
- Increases Profits
- Dual Purpose
- Two Models
- Approved . . .

ORDER
FROM LOCAL WHOLESALER
OR WRITE US DIRECT.

A. B. CARLSON & Co., Inc.
349 Woodlawn Avenue AURORA, ILLINOIS

I give my customers the BEST!

The
WIGWAM-THERMCAP



Eliminates:

- DOWN DRAFT
- SLUGGISH DRAFT
- DAMAGING ACIDS
- CARBON
- CREOSOTE
- RAIN MOISTURE
- FLUE GAS CONDENSATION

The WIGWAM-THERMCAP improves combustion — thus saves fuel. Looks good — *is* good. Keeps entire chimney *dry*. Has no moving parts to wear out. Saves costly repairs. Poor draft is dangerous; good draft means economy. The patented principle of WIGWAM-THERMCAP creates a draft-pull at the chimney top. ADAPTABLE TO ALL CHIMNEYS.

Special WIGWAM-THERMCAP representatives' contract available to qualifying dealers. Write for complete information, literature & instruction sheet.

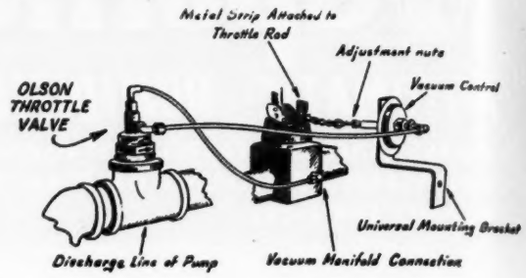
BOSTON MACHINE WORKS COMPANY
Oil Heating Supplies Division, Manufacturers, Lynn, Mass.

Save Money with OLSON'S THROTTLE CONTROL

"INCREASES ENGINE SPEED ONLY WHILE LIQUID IS FLOWING"

Hand throttle adjustment not necessary. Engage pump, engine will stay at idling speed. Put nozzle in fill pipe and open, then engine speed is increased automatically to most efficient pumping speed. By automatically decreasing engine speed, when not pumping oil, you will save two or more hours a day of engine and pump wear. You will save gasoline. If compartment runs dry, or oil stops flowing, engine automatically returns to idling speed. A tee is installed anywhere convenient in the discharge line of pump. Throttle control is easily installed.

Price of Control is $34.50, F.O.B. Raynham, Mass. Thirty day money back guarantee. Give size of discharge line when ordering. It will soon pay for itself. *Don't wait—start saving NOW!*



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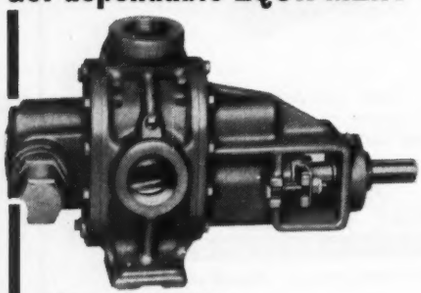
RENICK & MAHONEY, INC.

Get dependable EQUIPMENT



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TANK TRUCK PUMPS

You get quiet, efficient deliveries when you use Roper Tank Truck Pumps. And your pumps last longer, because Roper is noted for durability. For all grades of gasoline, kerosene, diesel fuel and fuel oils.
Consult us now about *your* plant or truck equipment problems, or write for catalog.

Get dependable SERVICE

RENICK & MAHONEY, Inc.

380 Second Ave.
(at 22nd St.)
New York 10, N. Y.
Complete Equipment for the Oil Trade

A-P Controls makes Changes within sales Organization

CHANGES within the table of organization of A-P Controls Corp., Milwaukee, Wisc., have been announced recently. Roy W. Johnson, president, named James Tate to the newly-created post of assistant to the president.

In the sales department, Del Moerick, vice-president of sales, appointed Duncan Henderson to administrative assistant in charge of sales. Robert W. Sloane is now responsible for sales-engineering in heating sales of gas and oil controls.

Stanley Burghduff and John Rice have been made technical staff advisors in heating sales.

Bearlee Products Co. bought by Company in Des Moines

BEARLEE PRODUCTS CO., Green Bay, Wisc., manufacturer of fueloil tank gauges and vent caps, has been purchased by the Homeward Products Co., with offices at 2420 S.W. 9th St., Des Moines, Ia.

All production facilities have been moved to Des Moines where company engineers are redesigning the present product and working on new ones for the oilheating industry.

Bearl Colburn was the former owner of Bearlee. Roger F. Williams controls the Homeward Products Co., which manufactures forms and equipment for concrete products manufacturers. Dale Clulow is general manager, in charge of production and sales.

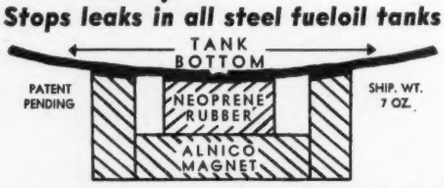
Detroit Brass and Malleable acquired by investor Group

AN INVESTOR GROUP, headed by Ralph S. Geddes, Detroit and Cleveland industrialist, has acquired the Detroit Brass and Malleable Co. The acquisition does not include the industrial brass products division.

Officers of the company are as follows: Geddes, chairman; M. A. Macbeath, president; David E. Lawson, executive vice-president; Ben T. Roe, sales vice-president; and J. F. Gallagher, Jr., vice-president, manufacturing.

Magne Patch

Stops leaks in all steel fueloil tanks



INSTANT—Just place neoprene rubber button over leak and press magnet against tank
REUSABLE INDEFINITELY—No parts to break or straps to twist or bend
NO TOOLS—Fueloil drivers can carry unit as well as servicemen
PRICED COMPETITIVELY — SOLD THROUGH SUPPLY HOUSES ONLY

MAGNE PATCH CO.
19 Van Buren Ave. Floral Park, L. I., N. Y.

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America's Foremost School . . . Famous for teaching

OIL BURNER
INSTALLATION AND SERVICING
Also Courses in: REFRIGERATION & AIR CONDITIONING

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MEN TO TRAIN, or
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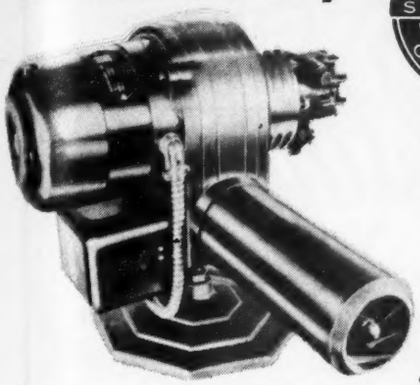
The Standard of the Industry



STANDARD AUTOMATIC OIL BURNER

Designed to a "T," and ruggedly built, the AFI way, the "Standard" oil burner is considered by those who know, to be the most dependable and durable on the market. In this one oil burner, you have those qualities that make the difference for over a ¼ century.

Standard Oil Burners are:

- Precision Made
- Ruggedly Built
- Silent Operating
- Economical
- Better Looking
- Dependable, Fire Tested

NEW LOW PRICES

Look to Standard for year-in, year-out trouble-free heat.

Precision and Performance are Allied

A PRECISION PRODUCT OF . . .

ALLIED FEDERAL INDUSTRIES

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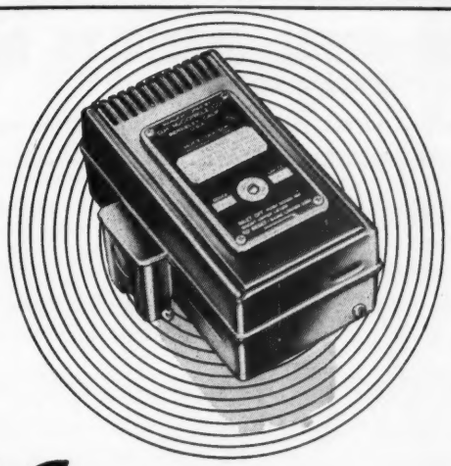
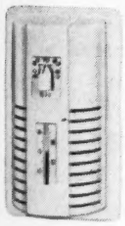


McCORKLE CONTROLS

FOR VAPORIZING OIL BURNERS

Satisfy dealers *and* customers



McCorkle Controls are backed by a record of 18 years of dependable service. Dealers endorse them because their rugged simple construction reduces service calls to a minimum. Customers appreciate them for their dependable, accurate operation.

Write today for literature and specifications to cover your particular requirements.

D. H. McCORKLE CO.

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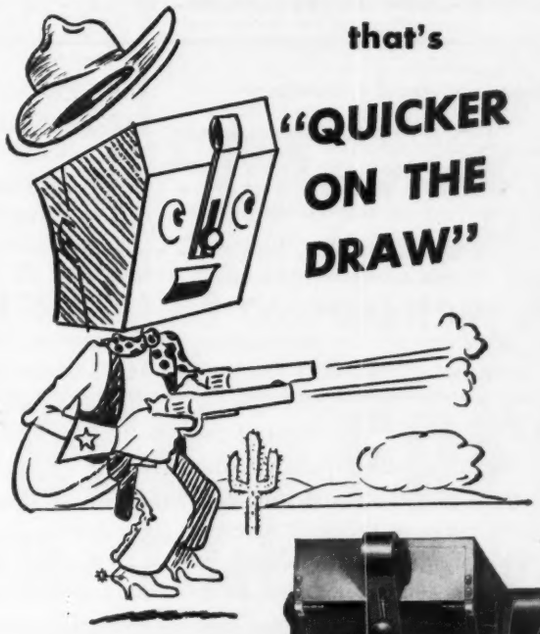
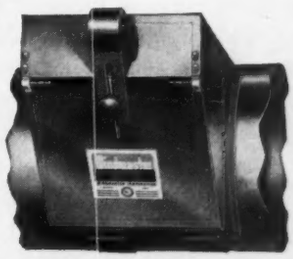
WINDMASTER

The Modern Draft Control

that's

"QUICKER ON THE DRAW"





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GOOD NEWS! → LOW 1955 PRICES

DRASTIC REDUCTIONS ON SMALL SIZES

Check LITE-CAST COMBUSTION CHAMBERS with your jobber!

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NEED FILTERS?

be sure to say *Eddington*

. . . the filter that filters out oil burner troubles. Big capacity — big sump — long life. It's interchangeable, light-in-weight and sturdy.

Write for latest price sheets and information

EDDINGTON METAL SPECIALTY CO.
EDDINGTON, PA.

STRAINERS — SPRAY NOZZLES — VALVES — FILTERS — AIR CONES — STABILIZERS — INSPECTION MIRRORS — COMBUSTION HEADS

Ban one-fuel Chimney

(*Begins on page* 61)

The Committee Chairman and Mr. Becker also had an interesting meeting in Chicago with Mr. Welborn, president of the Underwriters Laboratory, and Mr. Geigas and Mr. Witte, engineers of the Laboratory. From them we learned that the tests as set up in the laboratories call for 550° temperatures at the outlet of the boiler, furnace or other appliance, and does not indicate that 550° is acceptable at the outlet of the draft diverter which is the way the regulation is written, and, interpreted by those using it. We were also informed that the record of fire loss due to B flues was not a bad one.

Upon return from Chicago, a request was made to the National Board of Fire Underwriters, headquarters in New York, for the record pertaining to fire losses caused by B flues and we were informed that no breakdown was kept, other than a general classification of chimney flues defective or overheated. We then asked if there was any source from which we could obtain this information and, were directed to the National Fire Protection Association, headquarters at Boston. Mr. Chester O. Babcock, manager of the Department of Fire Record, informed us the only record available was a general classification of losses, due to chimney flues defective and overheated.

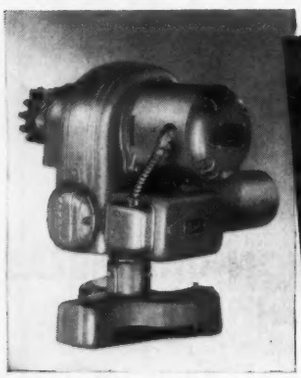
Since we had received from several sources information to the effect, that from the record, fire losses or explosions that might be attributed to B flues were very low, we found ourselves at a loss to understand where such authentic information could come from, since we were advised by the NFPA and the Fire Insurance Underwriters, the chief sources, of such information, that no such records existed.

However, it is startling to note from the information available that chimney flues defective and overheated from January 1, 1944 to December 1, 1953 inclusive, caused 115,697 claims to be filed, an average of 11,569 claims per year, which showed property losses of $146,475,730 or $14,647,730 per year.

The advance record for 1954 that is to be published in the October 1955 NFPA quarterly report indicates 33,600 fires due to chimney flues, defective or overheated as compared with the average of 11,569 claims in the ten year period 1944 through 1953. The property losses in 1955 totaled $24,600,000 as compared with the ten year average of $14,647,730 per year.

We have no way of knowing how many of these losses might be attrib-

(*Please turn to page* 126)



GREATER PROFITS
...with less effort
when you install
REXOIL OIL BURNERS
...not an empty statement
but a proven fact

Why don't you increase your profits by selling and installing REXOIL . . . the finest oil burner made!

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SOOT A WAY

CLEANS ALL OIL & GAS FIRED FURNACES — BOILERS

Harmless to A Heating Plant
Removes Soot Down to Metal

AVAILABLE—1½, 3, & 25 LB. SIZES

DEALERS—JOBBERS INQUIRE

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The "EXTRA" your customers will gladly buy!

Galongage

Has popular appeal for your customers because it reads in gallons.
For you, here's a quality gauge, conveniently packaged, easy to install in tight places. Costs less to ship, takes only ¼ the storage space required by most gauges. Underwriters' approved. Contact your distributor or write to —

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381 CONGRESS STREET, BOSTON, MASS.

THERE WERE FEW SWIMMERS AT THIS POOL ... until Delta OIL UNIT HEATERS were installed!

Send for complete new catalog F

PROBLEM: An inadequate heating system left this glass enclosed pool chilly, uncomfortable, and unpopular in cool weather.

SOLUTION: A compact and attractive Delta Oil Fired Unit Heater was suspended in each corner, overhead and out of the way. These units need no boiler or chimney — and there are no unsightly pipes, valves and fittings to mar the view. Delta's powerful heat blankets the entire area.

RESULTS: No matter what the weather, the pool is now always crowded with bathers relaxing in luxurious warmth and comfort.

This is only one of hundreds of jobs that a Delta OIL Unit Heater can do better and more economically.

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TRENTON 8, NEW JERSEY

FIL-O-MATIC

TANK SIGNAL

Whistles While Tank Is Filling...
Stops Automatically When Tank Is Full!

Fast Action Air Release — Exclusive by-pass design eliminates danger of pressure-shocking tanks.

New Improved Design — engineered for years of trouble-free performance. Unconditionally guaranteed against all defects.

Lowest Cost — and it pays for itself after the first few deliveries.

Made of high-grade gray cast iron. Universal design—for 1¼" and 2" tank openings—and 1¼" vent pipe. For all tanks whether horizontally or vertically mounted.

See your local jobber or write for literature.

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P.S. Jobbers, have you investigated our special $$$$$$ Savings Offer. Valid until December 31.

FREE...FREE
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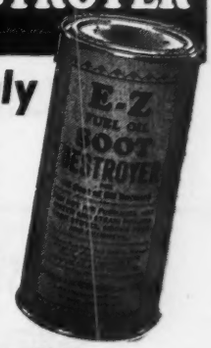
For Fuel Oil Soot Only



When you see how completely one application of E-Z Soot Destroyer removes fuel oil soot you'll always use it. It will save you hours of time and make cleaning jobs profitable instead of a nuisance. Your customers will be happier too, because E-Z Soot Destroyer does an efficient cleaning job without fuss or muss. And for extra profits, sell E-Z Soot Destroyer to your customers . . . there's a liberal dealer discount.

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CITY ..... STATE .....

A Notable Publication of Unusual Merit and

The 28th Annual January

Facts For Advertisers

FACT No. 1

In the entire heating field, FUELOIL & OIL HEAT is the ONLY PUBLICATION which gives its readers, its advertisers, and the field, monthly retail marketing data—based on oilheating sales—*30 days after the completion of each monthly marketing period.* Thus, the September sales were reported in the November issue, out November 1st, telling readers how many oilheating jobs were sold during September, the types and kinds of heating installations, the stocks of oilheating equipment and fueloil tanks in dealers' hands at the end of September, and the oilheating permits and building permits issued in a large list of selected marketing areas. *(Our Advertisers receive this same information in our Oilheating Merchandising News mailed from a week to 10 days ahead of the regular issue.)* The complete figures for the preceding portion of the year, compared with the previous year, are also given. (See Trends.)

THINK OF THIS SERVICE! Accurate monthly facts on the most sensitive indicator we have—the retail market! THE JANUARY STATISTICAL ISSUE contains some of these figures, accumulated from the monthly issues, PLUS MUCH MORE. They are widely used by Government, market experts and those wishing to set up sales plans—local and national.

FACT No. 2

Standard Rate & Data service lists 16 magazines published for retail dealers in various heating equipment alone or with air conditioning (year-round). 2 wholesaler magazines are also listed.

There are two national auditing organizations, accepted by everybody—ABC (for paid circulation magazines), and BPA (for "controlled" circulation magazines).

In all the 18 heating magazines, and 7 more in the oil industry, *FUELOIL & OIL HEAT is the only one which belongs to both audit bureaus—ABC and BPA—and submits its records to both.*

Only 3 of the 18 heating publications belong to ABC (Paid). One key to readership in the ABC audit statement is "renewal percentage"—the portion of the paid readership which voluntarily renews subscriptions on notice, or after solicitation. Readers renew subscriptions only when they know the magazine is valuable to them.

Of the 3 ABC member papers, FUELOIL & OIL HEAT's renewal percentage is 70.57%; and the other two 64.37% and 59.04% respectively. THIS SITUATION IS IMPORTANT TO ADVERTISERS.

P.S. JANUARY is NOT our DIRECTORY ISSUE. That very timely number comes in APRIL of each year. Confidentially, The January Statistical and Review Issue requires *harder* work to produce, and it costs *more*, too.

JANUARY STATISTICAL & REVIEW ISSUE

Calls for your best and strongest advertising. Write, Wire or Phone

FUELOIL & OIL HEAT

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Midwest:—
Jack Metzel, 224 So. Michigan Ave., Room 200, Chicago 4 (WAbash 2-954

Michigan-Ohio:—
Jim Becker, 177 No. Main Street, Oberlin, Ohio (OBerlin 4-2814)

Pacific Coast:—
Don Harway, 1709 W. 8th St., Los Angeles 17, Calif. (DUnkirk 2-8576)

Opportunity For Readers and Advertisers

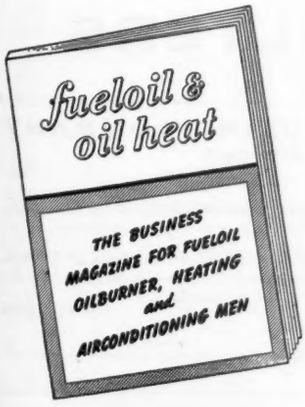
Statistical & Review Issue

(YEARBOOK)

FUELOIL & OIL HEAT, for the last 28 of its 34 years of service to the industry, each January has given a useful and penetrating analysis of the Oilheating Industry's activities for the preceding 12 months. It includes much valuable material, including tables and analytical studies of retail sales by types of equipment, and marketing areas. The enormous scope and accuracy of its facts on sales, technical developments, production and trends in marketing, have brought the JANUARY STATISTICAL & REVIEW ISSUE (Yearbook) a respect and intensity of interest (See opposite page) rarely equalled in the field of businss journalism. This readership and its "over-and-over-again" use, make it an unusually good advertising medium.

If you have anything to sell or say to the oilheating and fueloil dealers, jobbers, supply houses, distributors, manufacturers, or to salesmen, installers, service men and others interested in this great field—this is your No. 1 opportunity for January, 1956. It is timely: Reaches the field when many plans for the year ahead are being made. Will also contain the usual every-issue features and good and profitable "know-how" reading, facts, and data that make it "the Bible" of the oilheating men, and the fueloil men—all the marketers, production men and engineers.

Should We Reserve Space For You?



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Write for franchise information:
HAYWARD OIL BURNER CORP.
86 Kirkland Street, Cambridge, Mass.
Factories in Brooklyn, N. Y. and Taunton, Mass.

uted to B flues since we can obtain no records, but, we do know that the overall record indicates the need of higher standards for chimneys and flues.

The New York State Fire Chiefs Association proposed a resolution at their annual meeting held at Schroon Lake this summer, putting them on record as being opposed to low grade flues of the B type. They must have had some first hand information, which indicated the need for upgrading chimney and flue requirements, or action would not have been taken.

There is much interest in our subject throughout the country and many cities have made or are making studies of the problem. Some of these cities have passed restrictive measures pertaining to the B flue, and others are considering similar restrictions.

Your committee recommends that a resolution be passed, placing this body on record as being in favor of a thorough study of the NFPA codes pertaining to the use of B type prefabricated flues, with the purpose in mind of revising, and upgrading the test requirements, so as to eliminate the hazards to public safety that exist in the present version of NFPA Standard No. 54, for the installation of gas piping and gas appliances in buildings, and the test requirements contained in UL subject No. 441, pertaining to B flue tests. We recommend that a letter be sent to the National Fire Protection Association advising them of the action, providing such resolution is passed and, requesting immediate study of the standards and test requirements.

❖

Amiel B. Caramanna has been named district manager attached to the New York regional office of the Airtemp Div., Chrysler Corp., Dayton.

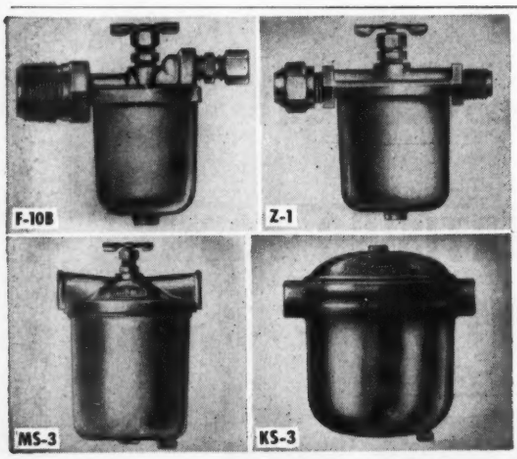
Electric Motors

(*Begins on page 56*)

you can learn to tell the number of poles they were wound to have.

A 60-cycle motor which has two poles wants its rotor to revolve at 3,600 rpm, as the above schedule indicates. Running in a vacuum (no drag of air on it) and running without any bearing friction, the rotor of such a motor would spin at 3,600 rpm. Of course, that's on a purely theoretical basis. Actually the rotor of a two-pole, 60-cycle motor never can attain a speed of 3,600 rpm.

The actual full-load shaft speed of 3,500, indicated for this two-pole motor, is stamped on the motor label by its manufacturer, and means that the motor shaft will slow down to 3,500 rpm when the motor is fully loaded. Load the motor considerably more and slow its shaft considerably



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1949 Fruehauf 4545 gallon, one-compartment, single axle trailer, #K159, **$1500.**

1949 Standard Steel 5180 gallon, one-compartment, single axle trailer, #K161, **$1500.**

1950 Trailmobile 4580 gallon, one-compartment, single axle trailer, #K174, **$1675.**

1950 Heil 4600 gallon, one-compartment, single axle trailer, #K178, **$1675.**

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Dept. G, 624 South Michigan Avenue, Chicago 5, Ill. Phone: WEbster 9-5035

Mr. J. W. Gallagher 6508 N. 5th Street, Philadelphia 26, Penn. Phone: Hancock 4-3969

more, say down to 3,300 rpm, and the manufacturer would expect the motor to burn out because you overloaded it.

The full-load speeds given above are typical. However depending on their makes and models, motors may have different full-load speeds than are listed above. Four-pole, 60-cycle motors may have full-load speeds of, for example, 1,125, 1,140, or 1,150 rpm.

Many oilheat experts consider the four-pole or 1,800 rpm motor to be the "standard" motor. Two-pole motors are used widely in oilheating to drive horizontal rotary cup burners directly. Six-pole motors, once called "slow-speed motors" for gun-type burners, seldom are used today for such burners. In bygone years, a dealer often made an installation quieter by switching from an 1,800 motor to a 1,200 motor. He could do that where, for example, a burner rated for up to 4.0 gph was producing a flame size of only 1.5 gph.

Eight-pole motors are exceedingly rare. You might use one, however, if you want to employ direct-drive for an auxiliary pump which handles hot No. 6 fueloil, and for which 850 rpm is a suitable pump-shaft speed. But if you followed usual practice, you'd use a standard 1,800 rpm motor, coupled to the pump shaft by a step-down belt drive. That would give you the advantages of using a standard motor, and of being able to drive the pump shaft as much slower than the motor shaft as you liked.

The way things work out, the higher the motor-shaft speed, the more horsepower you get for your money in buying electric motors. That makes an eight-pole motor a poor buy, in terms of horsepower per dollar spent on the motor, compared to a four-pole motor.

These articles have covered the overall characteristics of different types of motors. However a motor having special characteristics for its type is not unusual. A split-phase type of motor, or any other type, can be designed to have special starting or running characteristics that make it especially suitable for a certain application.

Don't, then, judge a motor entirely by its type. Find out if it has special characteristics that were built to make it suitable for some special purpose.

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Works in seconds! **Loosens Rusted Bolts** *nuts, screws, "frozen" parts . . . . without breakage!*

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A powerful blend of quick-acting solvents that frees "frozen" parts without breakage. Safe for all metals and alloys.

Makes joints ***LEAKPROOF!***

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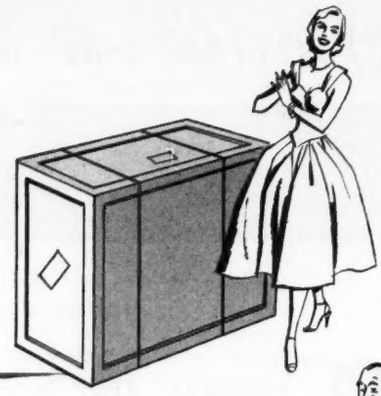

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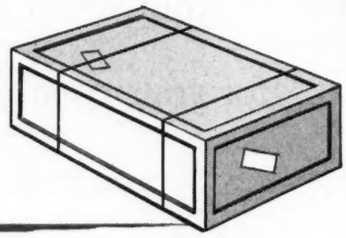
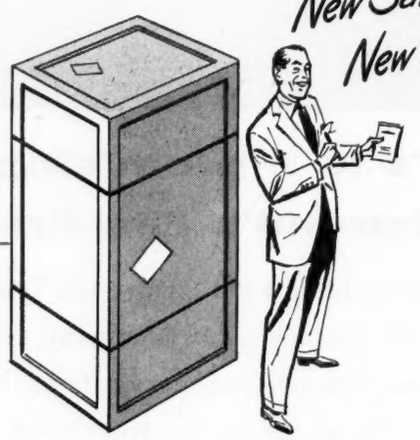


New Air Conditioning!



New Sales! New Profits!

WILLIAMS DIVISION
EUREKA WILLIAMS COMPANY
Bloomington, Illinois

Makers of the famous "OIL-O-MATIC"

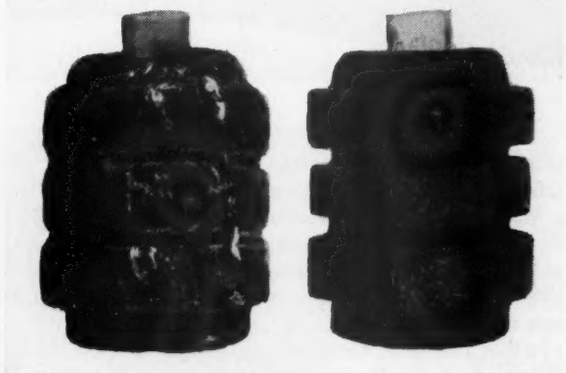
Let's crack down on these common customer complaints!...

SLUDGE . . . GEL-CLOGGED LINES . . . COATED ELECTRODES . . .
GUMMED-UP SCREENS AND STACK CONTROLS

Here are two additives that can help solve a wide range of service problems.

To prevent sludge

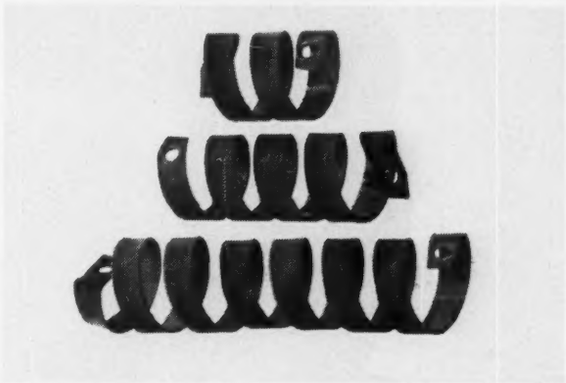
Du Pont Fuel Oil Additive No. 2 (FOA-2) prevents screen and filter clogging by retarding the formation of insoluble residues and by reducing the particle size of residues that are formed. Furthermore, this additive gradually disperses sludge that has gathered—tending to help rid dirty systems of deposits that already exist. Its stabilizing effect keeps fuel oil stocks gum-free for exceptionally long storage periods.



Just look at the difference! Filter on left was used for 90 days with untreated fuel. Filter on right was used for 90 days with same fuel to which had been added FOA-2.

To avoid gel-clogging

Du Pont Metal Deactivator (DMD) can generally be used effectively to prevent *copper* fuel lines and filter screens from playing mischief with some of the chemical constituents of heating oils. If unchecked, the copper is likely to cause the formation of a gelatinous substance. And complete stoppage of fuel flow is likely to result.



These stack controls had to be removed from domestic heating units because the deposits caused improper operation. The ashless properties of FOA-2 can help you prevent such needless service calls.

To keep electrodes and stack controls clean

FOA-2 is *non-metallic . . . ashless!* This means that it leaves no insulating deposit on the electrodes of the burner system . . . or deposits which interfere with the operation of controlling mechanisms.

For best results . . .

Du Pont FOA-2 and DMD should be added to freshly prepared stocks *at the refinery.* Because they are effective in low concentrations, they can be incorporated economically by your supplier.

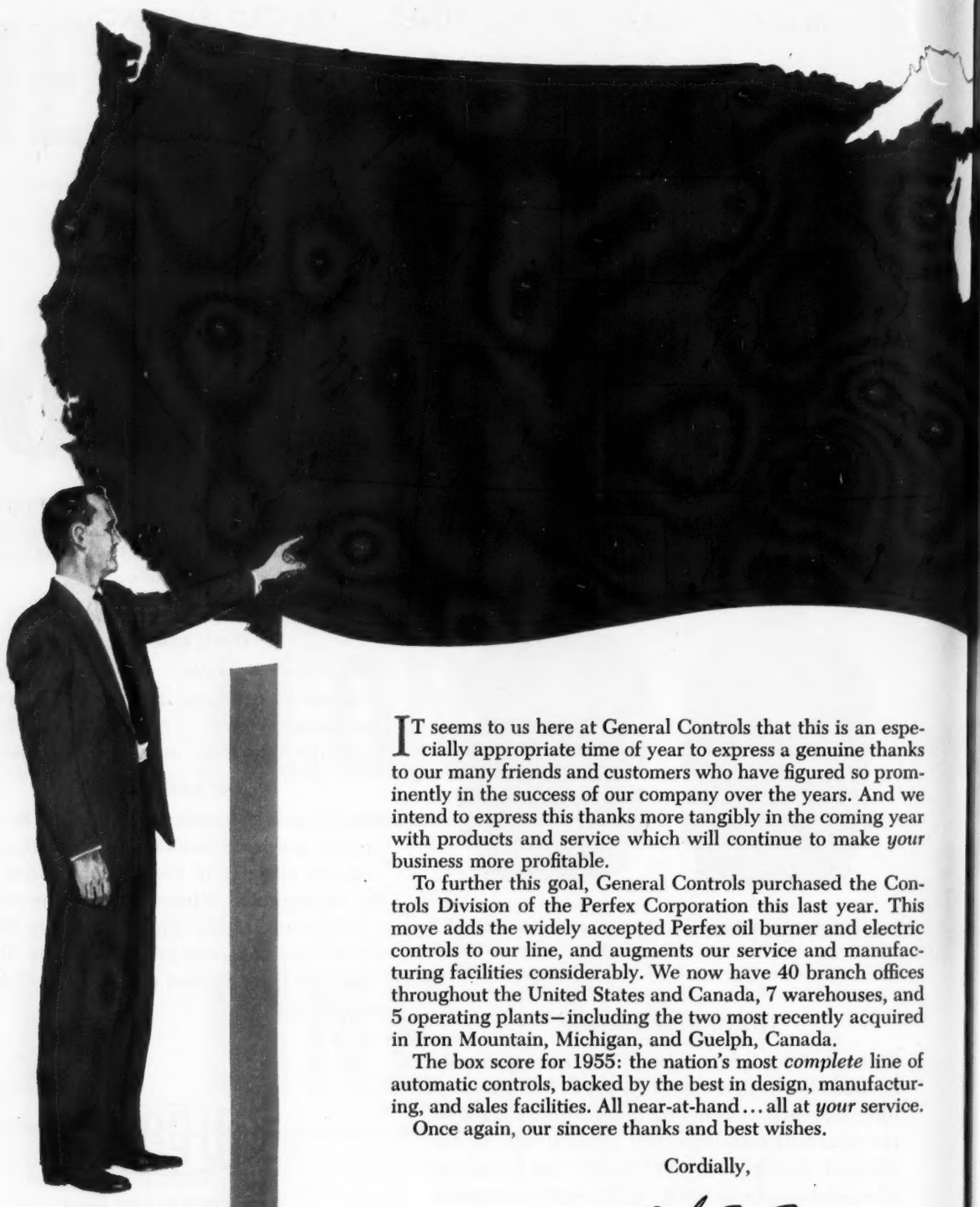
For yourself, they offer outstanding benefits for advertising and other promotion. And, at the same time, can increase your profit margin by reducing service calls.

DU PONT
REG. U.S. PAT. OFF.
Better Things for Better Living
. . . through Chemistry

Petroleum Chemicals

E. I. DU PONT DE NEMOURS & CO. (INC.) · Petroleum Chemicals Division · Wilmington 98, Delaware

The General Controls address.



IT seems to us here at General Controls that this is an especially appropriate time of year to express a genuine thanks to our many friends and customers who have figured so prominently in the success of our company over the years. And we intend to express this thanks more tangibly in the coming year with products and service which will continue to make *your* business more profitable.

To further this goal, General Controls purchased the Controls Division of the Perfex Corporation this last year. This move adds the widely accepted Perfex oil burner and electric controls to our line, and augments our service and manufacturing facilities considerably. We now have 40 branch offices throughout the United States and Canada, 7 warehouses, and 5 operating plants—including the two most recently acquired in Iron Mountain, Michigan, and Guelph, Canada.

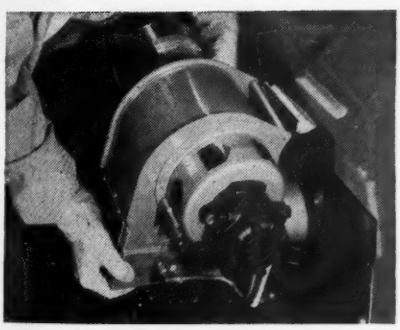
The box score for 1955: the nation's most *complete* line of automatic controls, backed by the best in design, manufacturing, and sales facilities. All near-at-hand... all at *your* service.

Once again, our sincere thanks and best wishes.

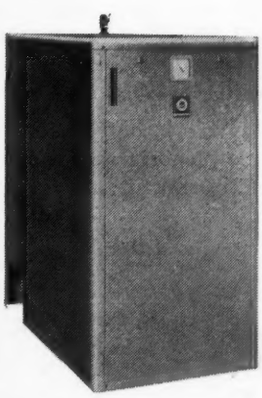
Cordially,

Jack F. Ray

J. F. RAY
Vice President
In Charge of Sales



Here's a close-up of the sling-mount. As you can see, you just slip the burner over the mount!



The trim new Oakmont is completely enclosed in a 20-gauge steel jacket. It's heavily insulated to prevent wasteful heat loss.

You can mount the burner *in only 20 seconds* on the new Oakmont Boiler

Cuts installation costs—eliminates call-backs

LOOK! In just three easy steps you can mount the Arcoflame Burner on the American-Standard Oakmont Oil Heating Unit. Why? Because of the unique sling mount. You just remove the Arcoflame from the box, slip the pressure plate over the air tube and hook the burner on the sling mount. It's as simple as that!

Additional design changes also have been incorporated in the Oakmont. It's more compact, yet retains the same high heat output. Big access doors and panels speed up cleaning, make maintenance easier.

The Oakmont comes in a wide range of sizes . . . is especially suited for installation in large residences and small commercial buildings. It is tested to assure dependable, low-cost operation and eliminate profit-killing call-backs.

For further information, write to **American-Standard** Plumbing and Heating Division, American Radiator & Standard Sanitary Corp., P. O. Box 1226, Pittsburgh 30, Pennsylvania.

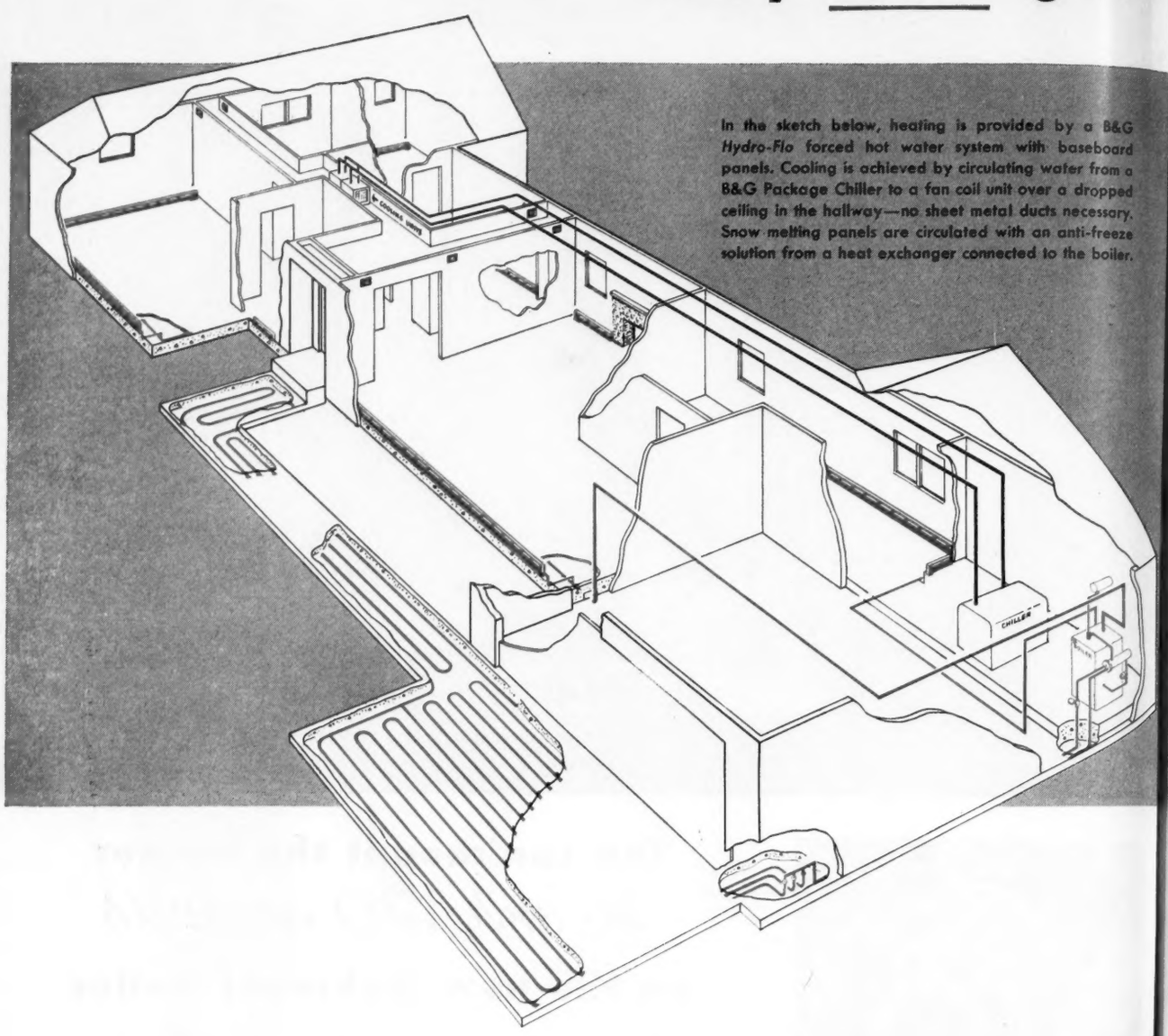
American-Standard Products

American-Standard

HOT WATER HEAT

fueloil & oilheat

Only Water gives



In the sketch below, heating is provided by a B&G *Hydro-Flo* forced hot water system with baseboard panels. Cooling is achieved by circulating water from a B&G Package Chiller to a fan coil unit over a dropped ceiling in the hallway—no sheet metal ducts necessary. Snow melting panels are circulated with an anti-freeze solution from a heat exchanger connected to the boiler.

The ability of water to hold a large number of BTU within a small volume...move them economically in small pipes from one place to another...and keep them under close control are the reasons why water is the most efficient and satisfactory medium for both bringing heat to a space and taking heat away. *Only water can provide all five...*

Heating—Radiant, draftless warmth, controlled to match the weather, produced at low cost.

Cooling—Separately engineered to more accurately answer the differing problems of heating and cooling.

Year 'round hot water—No separately fired heater needed—the same boiler that heats the house heats an ample supply of summer-winter domestic hot water for kitchen, laundry and bath.

Snow melting—Water in pipes is the only practical method to convey the heat needed to keep sidewalks and drives clear of snow and ice.

Zoning—Easy to divide the piping system into zones for better temperature control and fuel economy.

BELL & GOSSETT
COMPANY

Dept. ED-7, Morton Grove, Illinois

Canadian Licensee: S. A. Armstrong, Ltd., 1400 O'Connor Drive, W. Toronto, Canada

LENNOX makes a report to its friends...

Regarding the Progress of the Company and a Change in the Company Name

There is, of course, nothing dramatically important in the simple fact that Lennox is changing its corporate name.

But the happenings that have caused the name change are important, and we thought our many friends – our thousands of dealers, suppliers and employees – would like to hear about them.

Those of us who have long been associated with Lennox – and have been so busy building heating and air conditioning equipment – are frequently surprised when we stand back to view our accomplishments in proper perspective.

It is satisfying, of course, to find that Lennox has grown to be the largest company of its kind in the world. Our growth to this position was no flash in the pan. When we landed solidly in first place it was because of our policies, people and products; and it is for these reasons that we have stayed there.

We have now entered the home cooling and air conditioning field in a big way. Already multiple thousands of homes are Lennox cooled. Leading air conditioning and heating dealers throughout America are featuring Lennox cooling equipment. At our present rate of growth in a relatively young industry, Lennox confidently expects to hit the top in residential cooling too, in a few years.

We have also added divisions for the manufacture of agricultural crop drying and processing equipment, as well as barn ventilating equipment and a number of other articles for home, farms, commerce and industry. Still other divisions concentrate on the building of special machinery, jigs, dies, fixtures and tools.

With all these developments, the time has come for a company name that properly encompasses our widespread activities. That is why as the year changes our name will change officially.

That is the only change, however – just the name. There has been no change of ownership, management, officers or policies. There has been no transfer of stock and no other company is stepping into the Lennox picture in any way.

As more people in more walks of life rely on the Lennox name, our dealers, suppliers and employees, too, will continue to share in our growth.

We are grateful indeed that in less than the span of one lifetime this company, which had its modest start literally in the heart of an Iowa corn field, has been privileged to grow up to serve so many of its fellow Americans.

John W. Norris

JOHN W. NORRIS, President

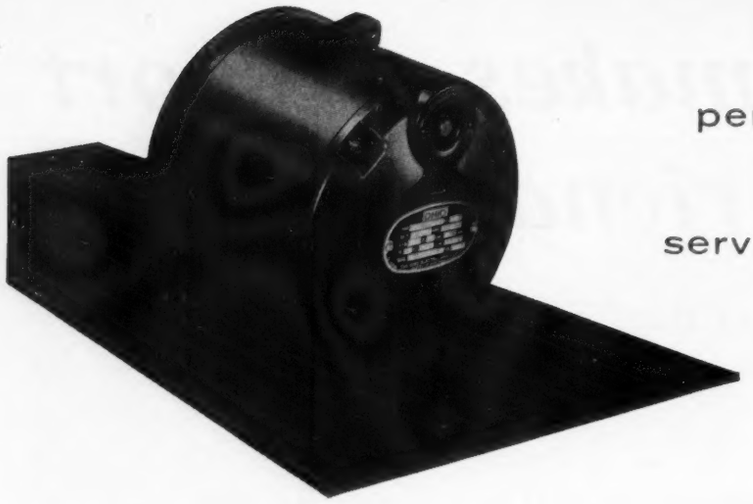
On January 1, 1956, instead of The Lennox Furnace Company, our corporate name will be...

LENNOX Industries Inc.

Established 1895

MARSHALLTOWN, IOWA • SYRACUSE, N. Y. • COLUMBUS, OHIO • SALT LAKE CITY, UTAH • LOS ANGELES, CALIF.
FORT WORTH, TEXAS • DECATUR, GA. • DES MOINES, IOWA *In Canada:* TORONTO and CALGARY

fueloil & oilheat



performance

features

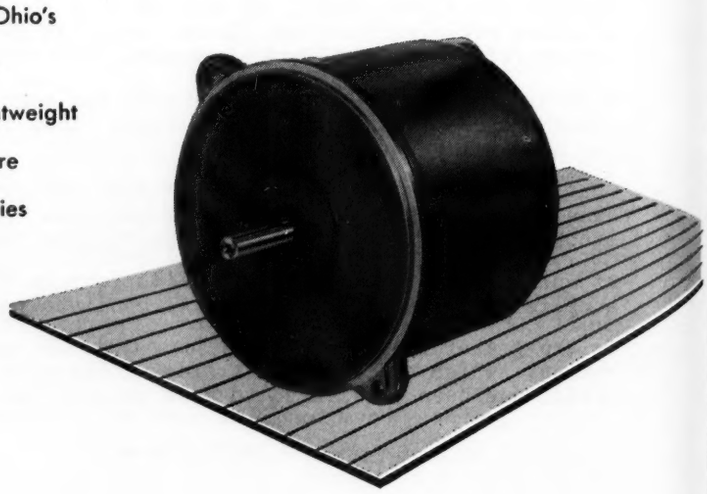
service

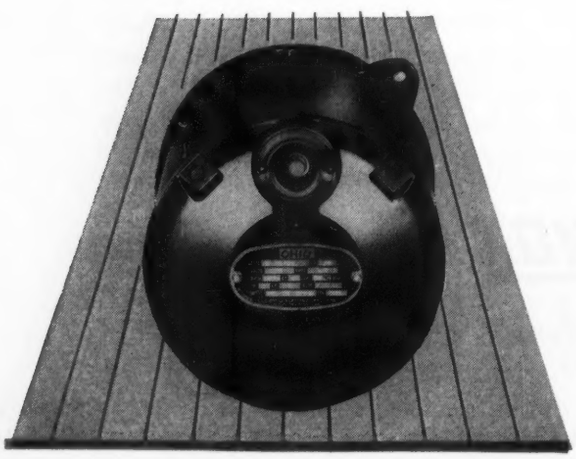
any way you look at it
the <u>new</u> lightweight

OHIO OIL BURNER MOTOR

gives you more performance per dollar

New features galore in design . . . in construction . . . in performance . . . in compact, streamlined appearance — and all combined with Ohio's legendary service-free longer life. That's the new — *all new* — Ohio Series 991 Lightweight Oil Burner Motor. Our representatives are listed in the Yellow Pages in principal cities — and they're waiting to tell you about the all-new Ohio Oil Burner Motors.





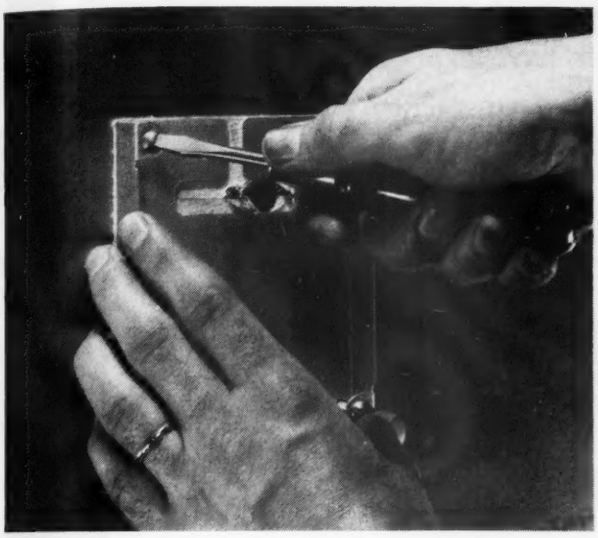
THE OHIO ELECTRIC MFG. CO.

ohio ELECTRIC

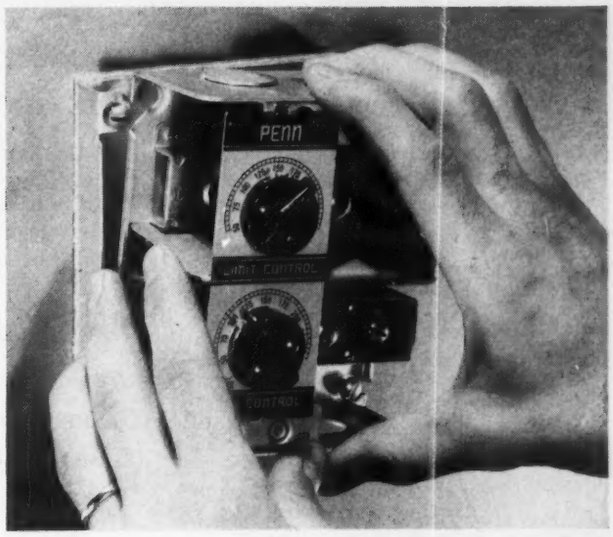
Chester Bland
President

5400 Dunham Road • Maple Heights • Cleveland, Ohio

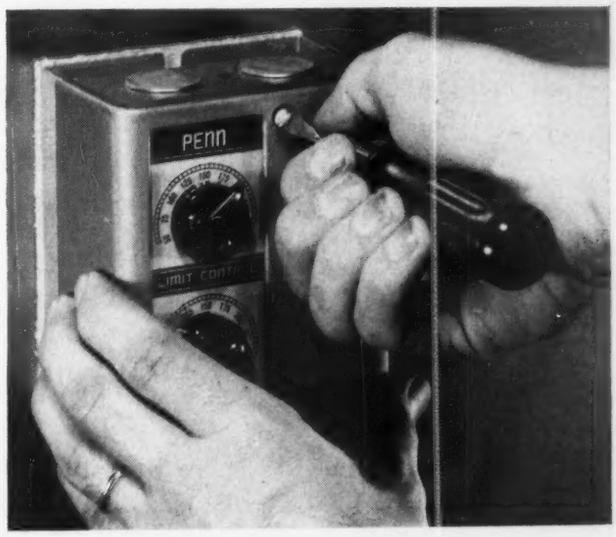
It's As Easy As "1-2-3" To Install Penn Combination Fan and Limit Control



1. Cut 1¼" power element hole. Drill 2 mounting holes, using asbestos seal as template. Start mounting screws through bracket.



2. Insert power elements and hook slots in control case under screw heads, then tighten screws.



3. Place control cover in position and secure 2 retaining screws. That's all you do . . . it's simple and fast.

Easier and faster to install . . . even in cramped quarters or in poor lighting . . . it isn't necessary to mount the Series 520 in a level or vertical position! But that's just part of the story.

Penn combination fan and limit controls are designed for low, line or millivoltage service . . . *at no extra cost.* Penn's superiority is recognized by customers, too. They know Penn controls mean healthful comfort. They know the Penn name means accurate and dependable operation. It's the kind of dependability that eliminates, for you, those costly service call-backs.

On your next heating job, specify Penn controls . . . *they cost no more!* Penn furnace controls are also available in single units . . . for fan only, or limit only. Be sure to ask your burner manufacturer or wholesaler for Penn heating controls. **Penn Controls, Inc., Goshen, Ind.**

PENN

AUTOMATIC CONTROLS

FOR HEATING, REFRIGERATION, AIR CONDITIONING, GAS APPLIANCES, PUMPS, AIR COMPRESSORS, ENGINES

How's your service-call IQ?

QUIZ PROGRAM EXCLUSIVELY FOR FURNACE OIL DEALERS

A GREAT MANY dealers have expressed themselves strongly on the subject of emergency service calls. We'd like to know *your* reactions to these three important questions:

QUESTION 1.
WHAT IS THE NO. 1 CAUSE OF EMERGENCY SERVICE CALLS IN WHICH FUEL IS BLAMED?

Answer —Through the years the chief cause of oil burner failure in which the fuel is blamed has been filter screen clogging. This trouble is responsible for most of the customer fuel oil complaints and eventual brand-switching.

QUESTION 2.
ARE EMERGENCY CALLS PROFITABLE?

Answer —Customers become irritated over this periodic trouble. Keeping them happy is far more profitable than the slight profit, if any, on these calls.

QUESTION 3.
CAN SUCH CALLS BE ELIMINATED?

Answer —Yes! There is one heating oil that dealers everywhere depend upon for customer satisfaction based upon free-flowing, uniform performance with minimum filter clogging—Shell Furnace Oil. It contains the nonclogging additive that eliminates most of your service calls.

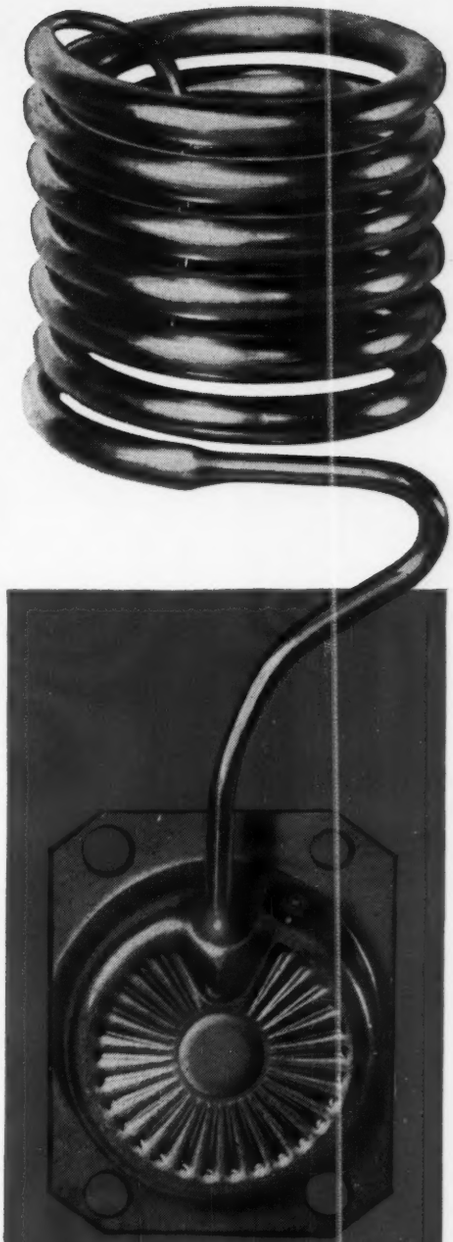
SHELL FURNACE OIL

SHELL

THE BIG NAME

In Hydraulic-Action is

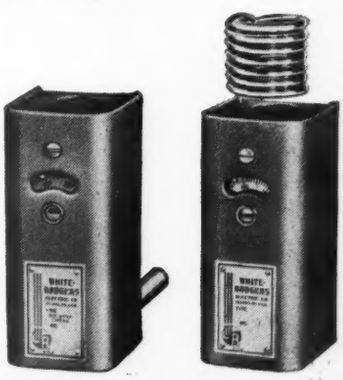
WHITE-RODGERS



7,000,000 SOLD

Perfected for over 18 years!

NOW... with today's demand for improved accuracy and dependability... the whole control industry is rapidly turning to the liquid filled principle... introduced to the industry by White-Rodgers.



Available for:

Immersion Hot Water
Strap-on Hot Water
Warm Air Controls
Space Thermostats
Heavy Duty Thermostats
Refrigeration Controls
Industrial Oven Controls

Be sure you get the Original:
Insist on WHITE-RODGERS

WHITE-RODGERS *Controls*

FOR HEATING · REFRIGERATION · AIR CONDITIONING

ST. LOUIS 6, MO.
TORONTO 8, ONTARIO

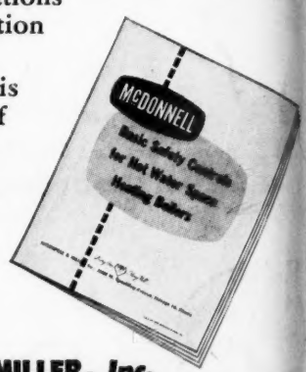
Don't let the gauge glass fool you...

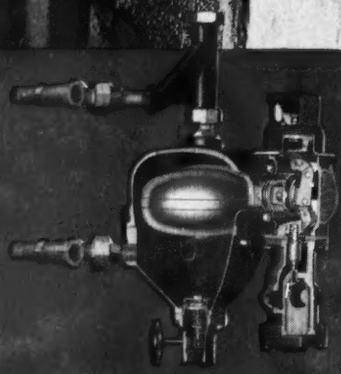
That's a steam boiler all right in the picture above. The gauge glass gives it away.

But to call attention to the perils of low water, Sam could be looking at a hot water boiler just as well.

Both steam boilers and hot water boilers are in the same boat when it comes to low water and the troubles and expense it can cause. True, the need was recognized with steam boilers first. But today many insurance companies, local codes and federal specifications insist on the same kind of protection for hot water heating boilers.

The best answer in either case is a McDonnell Feeder Cut-off Combination. To learn all the facts about low water in hot water boilers write for copy of new folder on "Basic Safety Controls for Hot Water Space Heating Boilers".





No. 47-2 Feeder-Cut-off Combination for boilers below 5000 sq. ft.; maximum steam pressure, 25 lbs. Quick-Hook-Up for speedy, correct installation.

No. 67 Low Water Cut-off for all automatically fired boilers; maximum steam pressure, 20 lbs.

No. 150 Water Level Control for boilers of any size with steam pressures up to 150 lbs. Used as feed-pump control; low water fuel cut-off; low water alarm switch, or any combination of these functions.

McDONNELL & MILLER, Inc.
3500 N. Spaulding Ave., Chicago 18, Ill.

Doing One M&M *Thing Well*

McDONNELL

Boiler Water Level Controls

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